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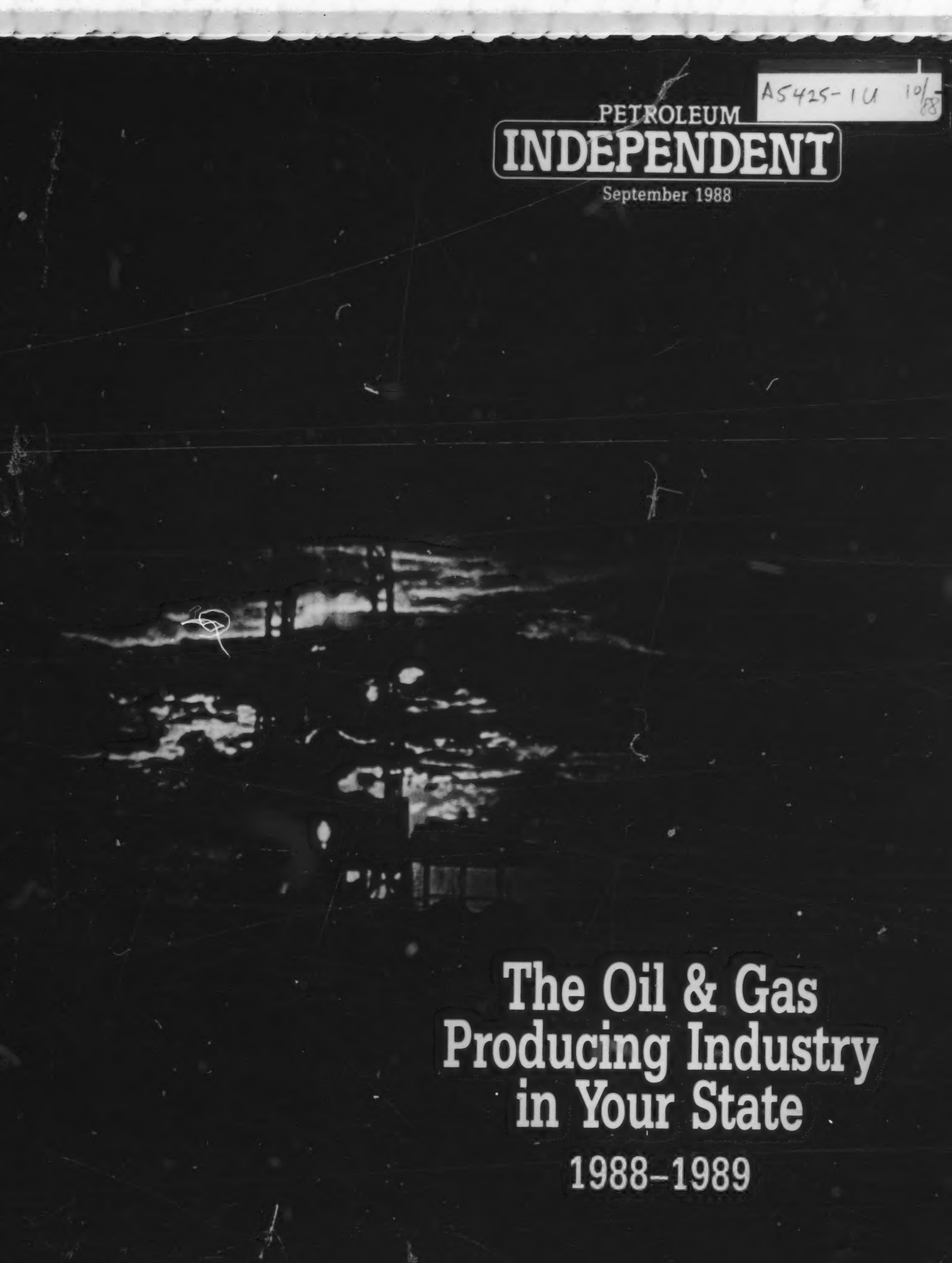
September 1988



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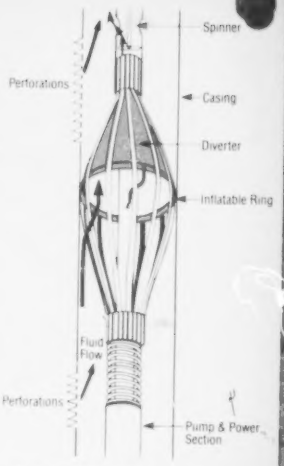

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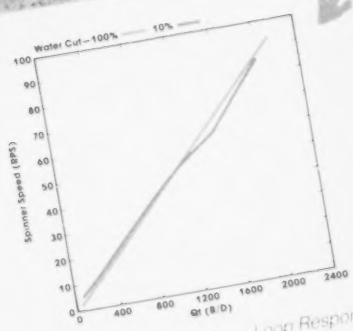
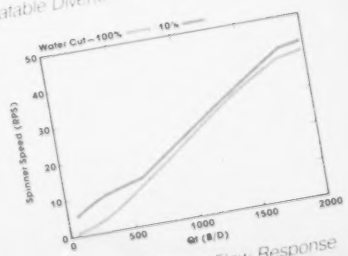


Inflatable Diverter Tool Flow Loop Response



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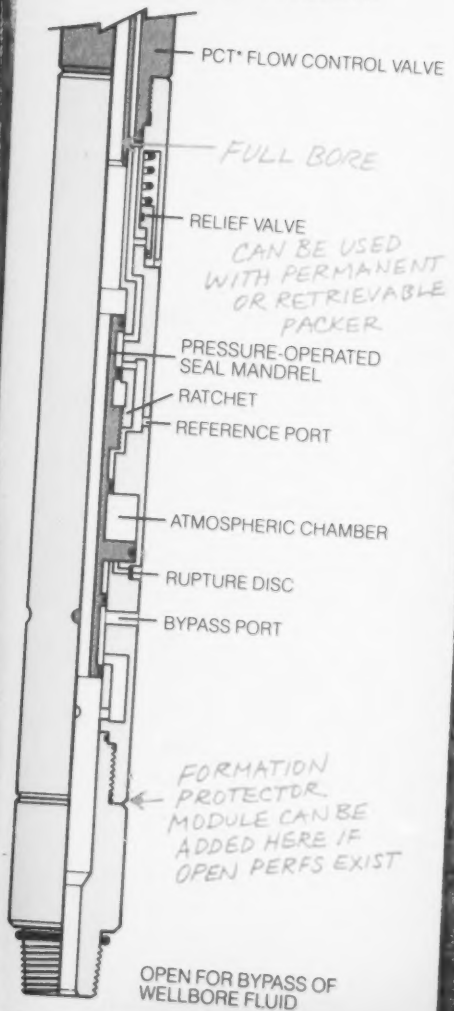

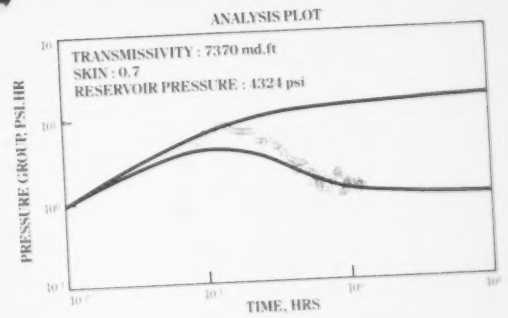

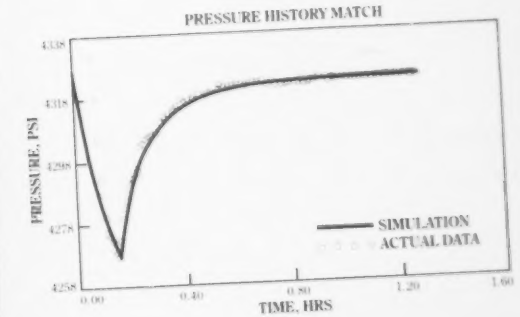

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†SPE Paper 14820

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In addition to **The Oil & Gas Producing Industry In Your State**, IPAA offers the following publications as part of its Statistical and Economic Reports:

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Supply & Demand Outlook (monthly)
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SEPTEMBER 1988

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For more information, call Peter K. Lind, Southwest Energy Executive, at (713) 751-5678.

CHASE

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went to the Gulf,
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Chairman's Page

To: IPAA members
From: IPAA Chairman Danny Conklin

Welcome to the IPAA's annual **The Oil & Gas Producing Industry in Your State**, a reference tool that thousands find very valuable every year and every day.

This issue is especially useful these days, with the oil and natural gas industry undergoing wrenching changes. These are not just pages of statistics. This is a chronicle of the changes impacting domestic producers, painstakingly compiled and interpreted by IPAA's Department of Petroleum Information Services.

This publication is unique in that it is the only one that takes comprehensive statistics from many varied sources and compiles them on a state-by-state basis.

As is the case with IPAA's other departments, the primary goal of the Petroleum Information Services Department is to serve the independent oil and natural gas explorer and producer. Most of us don't have in-house economics specialists to come up with the many industry figures we need. This is another reason we put IPAA to work for us.

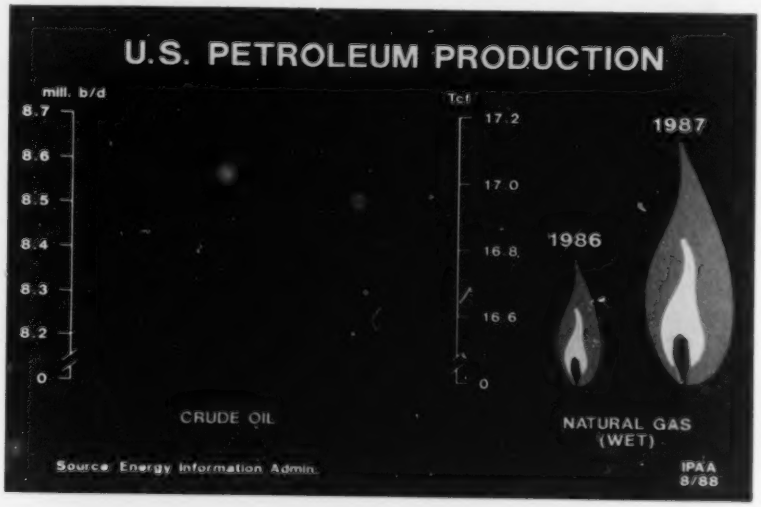
But there's another important role for IPAA's statistical data. It provides our government relations and public relations experts with the vital ammunition they need to tell the story of the independent in the nation's capital and throughout the country. Since 1929, IPAA has been the respected spokesman for the nation's independent oil and gas industry, and our economic and financial service is another reason why.

The chart below, prepared by the Petroleum Information Services Department, vividly illustrates the situation in the nation's oil patch. Domestic petroleum production continues to decline, while natural gas production experienced a marked increase from 1986 to 1987. The problem, of course, remains the wellhead price and profit from either crude oil or natural gas. Both remain so low and erratic that producing states—including your state, most likely—are suffering grave fiscal conditions.

But the picture isn't entirely bleak. Things are getting better in pockets of the oil patch, albeit slowly. Working together, within IPAA, we can make them better still.

All it requires is some amount of effort to bolster membership in an Association that serves you in so many ways on a daily and yearly basis. This magazine is just one example of the many services you receive from IPAA, and we are working every day to make that service better.

We know you'll find helpful information in this issue of the **The Oil & Gas Producing Industry in Your State**. I'm proud of IPAA's staff and the work they do for our industry. If you need help—with a statistical question or any other problem—call your IPAA staff today. Δ



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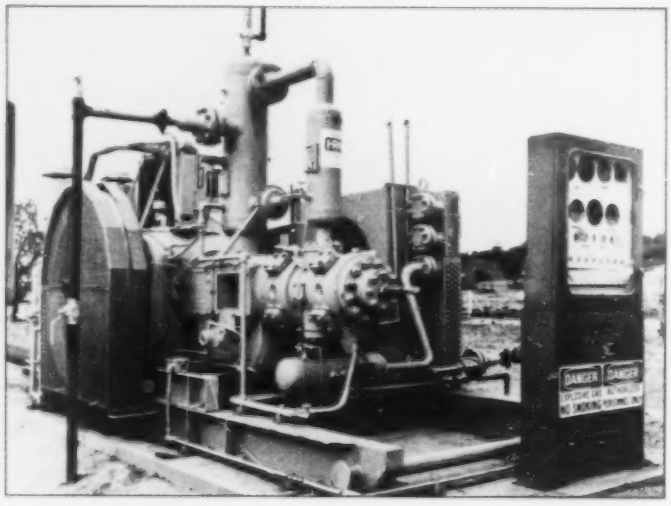
19. Provides for immediate shipment/change-out of equipment.
20. Helps hedge against regulatory changes.



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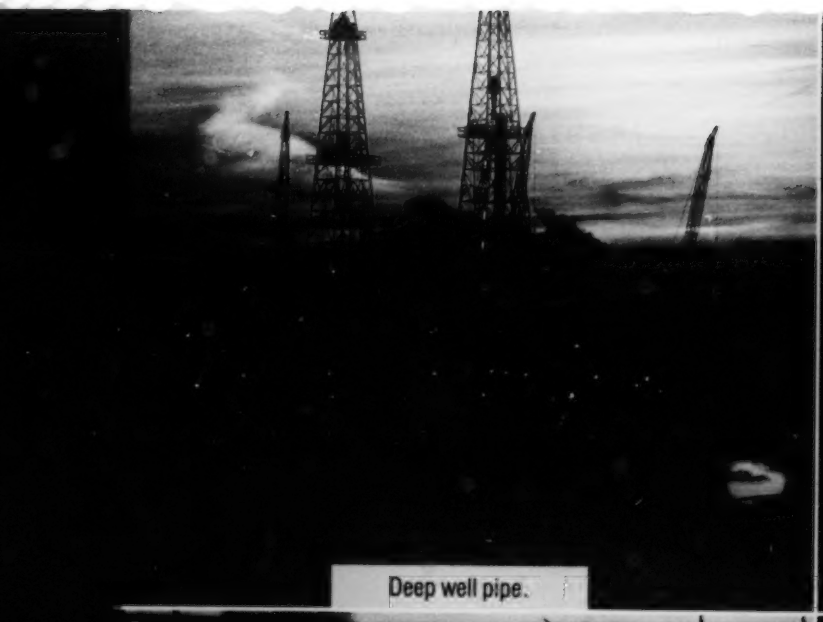
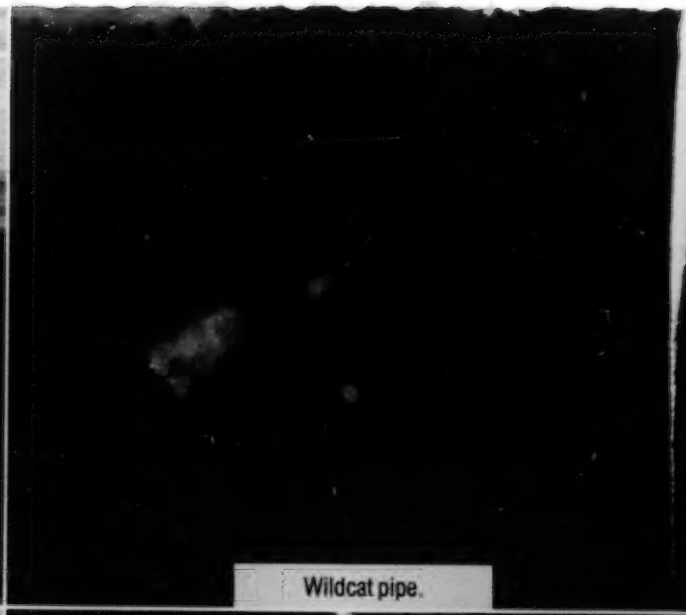
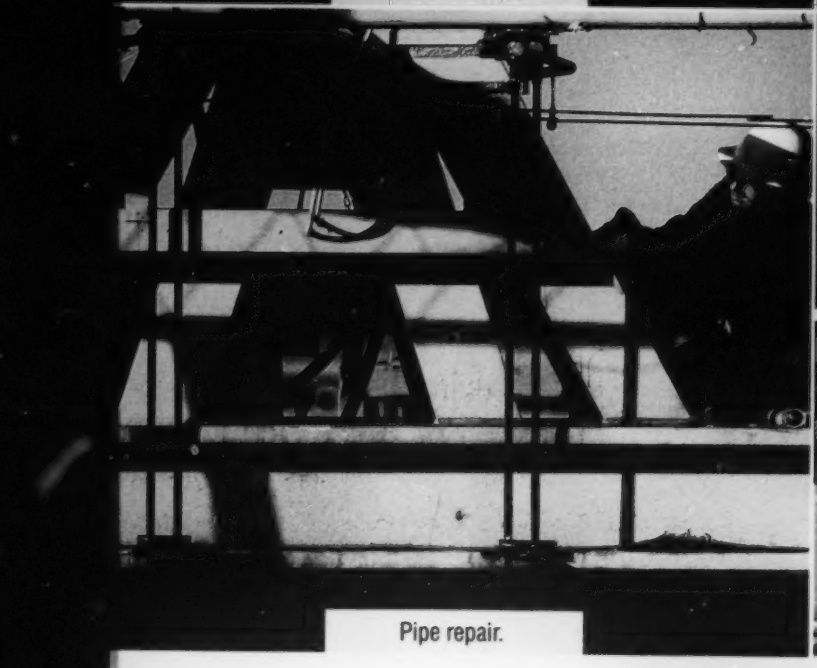


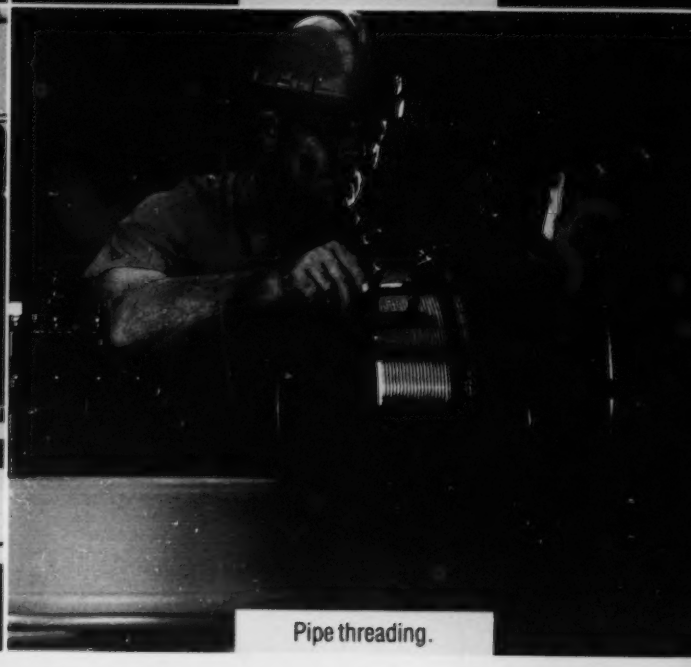
Deep well pipe.



Wildcat pipe.



Pipe repair.



Pipe threading.

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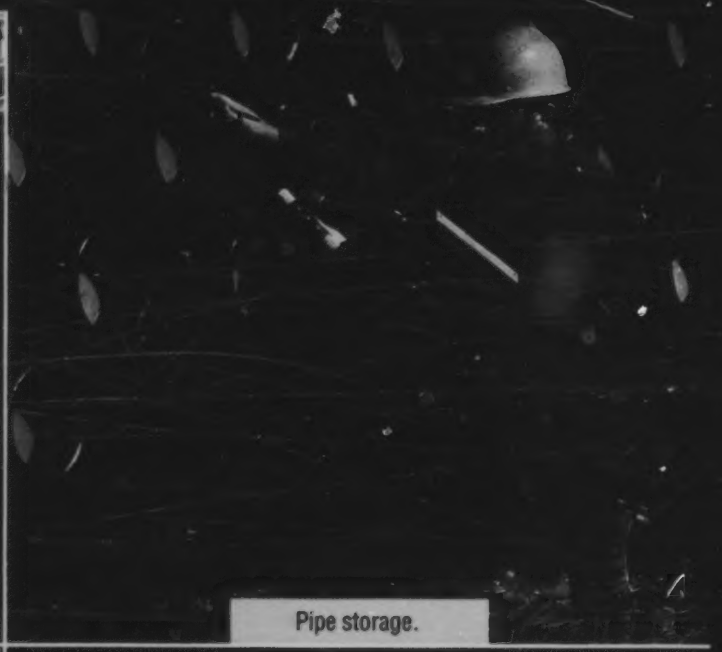
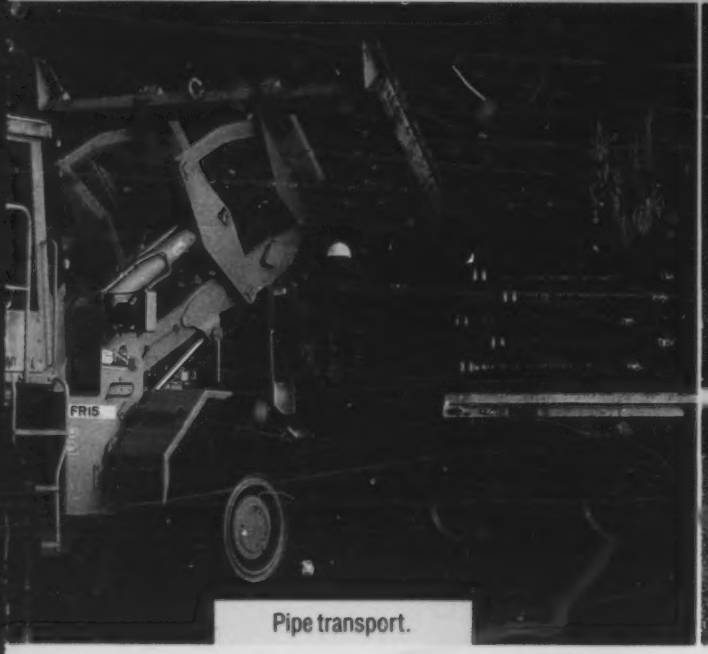
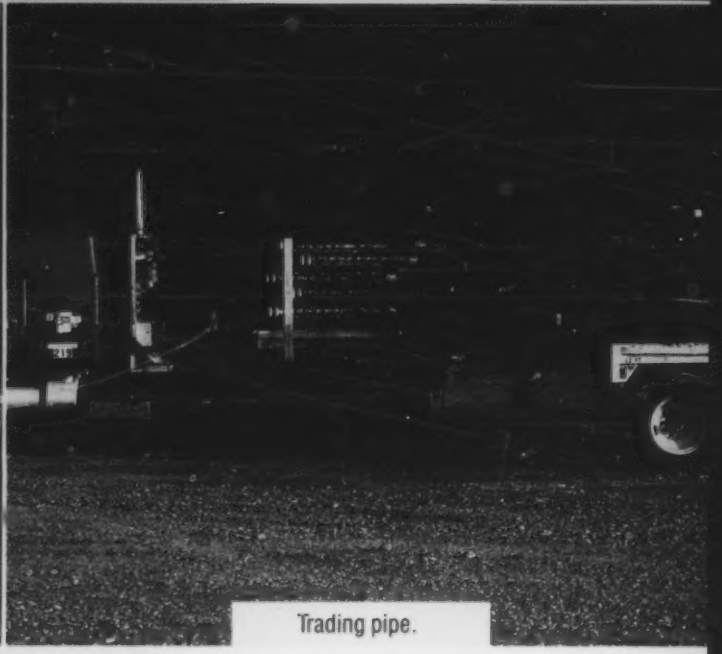


Pipe storage.



Pipe transport.



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The Year In Review

In the nearly 50 years that the Independent Petroleum Association of America has published **The Oil & Gas Producing Industry In Your State**, there never has been a more severe downturn in annual statistics than occurred during 1986. By comparison, 1987 proved to be a relatively uneventful year, as the domestic petroleum industry experienced a gradual and tentative recovery.

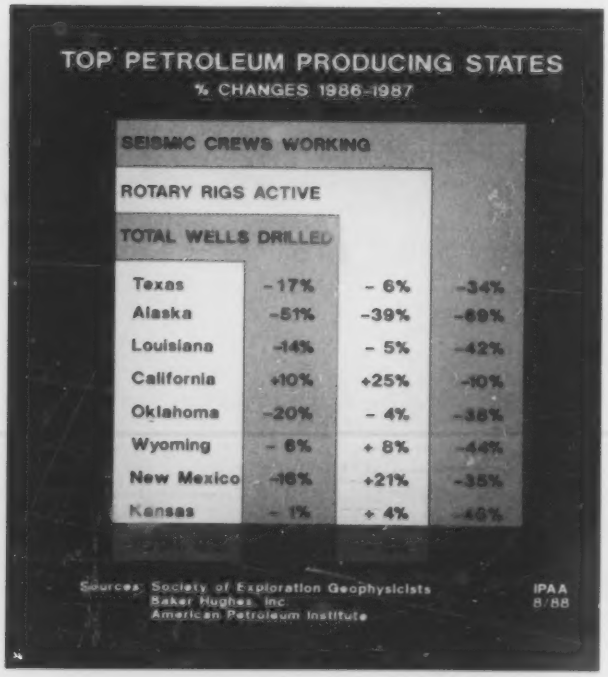
U.S. wellhead prices of crude oil strengthened throughout 1987, averaging $15.41 per barrel for the year. Although this is up 23 percent from 1986, crude oil prices remain significantly below the 1985 level of more than $24 per barrel.

Natural gas wellhead prices fell to an annual average of $1.71 per thousand cubic feet (Mcf) in 1987, down 12 percent from the year earlier. Since their peak in 1984 at $2.66 per Mcf, domestic natural gas prices have lost more than a third of their value.

It was not until the latter half of 1987 that uncertainty about the stability of OPEC's price targets gave way to more optimism. However, such positive trends in the monthly data may not be reflected fully in this publication, which is limited to 1987 annual averages.

For instance, an average of 936 rotary rigs were operating in 1987, which is 3 percent less than the 1986 level despite the improvement in drilling activity during the second half of last year. The rotary rig count still is less than half the average for 1985, when there were 1,980 rigs active for the year.

The seismic crew count, one of the main indicators of future exploration activity, dropped 23 percent in 1987. There were an average of 1,561 land and marine crews at work during the year. This compares to nearly 3,500 crews just two years earlier before the collapse in crude oil prices.



...1987 proved to be a relatively uneventful year, as the domestic petroleum industry experienced a gradual and tentative recovery.

With the number of seismic crews and rotary rigs declining for two consecutive years, it was inevitable that drilling would be curtailed. The latest available estimates (as of publication date) indicate that there were only 33,031 total well completions in 1987. This is less than half the level of 1985, and the worst drilling rate since 1974. U.S. drilling began to fall after 1981, when annual completions peaked at 91,600 wells.

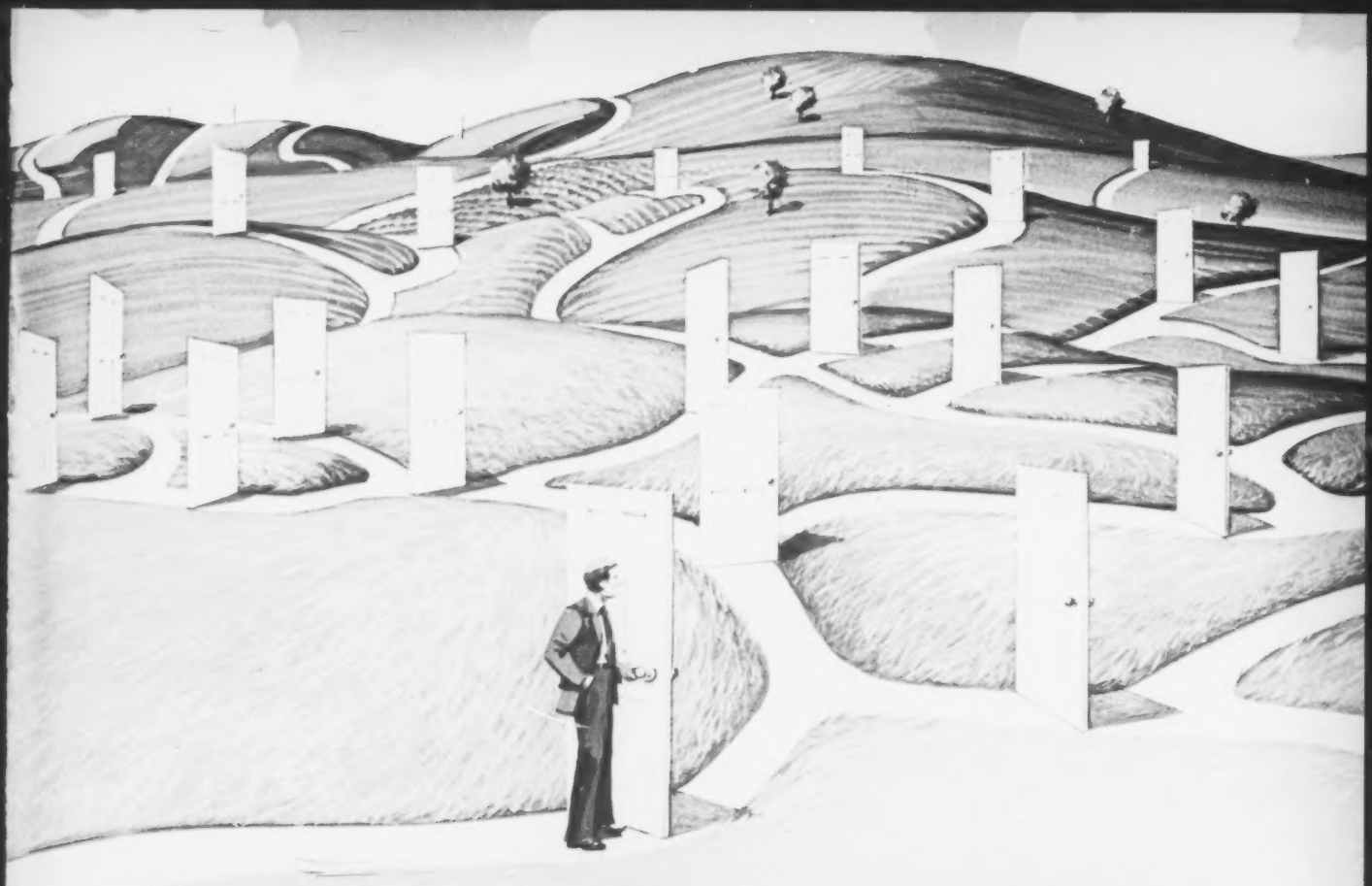
As a result of reduced wellhead prices and drilling activity, U.S. crude oil production dropped nearly 4 percent in 1987, to an annual average of 8.7 million barrels per day (MM b/d), following a 3 percent fall in 1986.

Domestic crude oil output has suffered its most precipitous decline in history since February, 1986, when production averaged 9.2 MM b/d. By the end of 1987, crude oil output had dropped by 900,000 b/d on a monthly basis. So far this year, production has continued to decline to around 8.2 MM b/d, or nearly 1 MM b/d below the recent year peak in early 1986.

Natural gas marketed production increased somewhat in 1987, to an average of nearly 17.2 trillion cubic feet (Tcf), up from 16.8 Tcf in 1986. Regulatory constraints and deliverability factors continue to be problems for the natural gas industry.

There were 620,181 crude oil wells producing at the end of 1987, or 8,509 fewer wells than the year before. By contrast, the number of producing natural gas wells increased by 1.3 percent in 1987, setting a new record of 253,856 wells. The rate of growth has slowed dramatically from the nearly 9 percent gain made in 1985.

The amount of severance and production taxes paid by the domestic petroleum industry dropped for the fifth consecutive year in 1986. The total of more than $3.6 billion in state and local receipts was 27 percent less than during 1986. From the time that IPAA began surveying this data more than 20 years ago, severance tax revenues increased steadily until the peak of more than $7.1 billion in 1982. **—Deborah Rowell**



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Data Sources

The format of the individual state pages was changed beginning with the 1984 edition. So data in current issues may be compared to the previous format, the listing below shows the item number used for each category prior to 1984. The editor gratefully acknowledges the following sources.

(1)	Number of counties	*The World Almanac*
(15-16, 18-19)	First and peak production years	*AIME Statistical Yearbook, World Oil, Oil & Gas Journal, & World Petroleum Report*
(28-29)	Deepest wells drilled	*World Oil*
(31)	Cumulative wells drilled	*Oil & Gas Journal, World Petroleum Statistical Yearbook*, International Oil Scouts Association, Petroleum Information, & API
(7)	Cumulative wellhead value	IPAA
(26)	Cumulative production and reserves	API, American Gas Association, and EIA
(8-11)	Wellhead prices and value	EIA
(new)	End-use natural gas prices	EIA
(new)	Severance and production taxes	IPAA survey
(30)	Wells and footage drilled	API
(17)	Seismic crews working	Society of Exploration Geophysicists
(27)	Rotary drilling rigs	Baker Hughes, Inc.
(21,23)	Producing wells	*World Oil*
(24)	Oil and gas production	EIA
(14)	Number of employees	IPAA survey
(25)	Petroleum reserve position	EIA
(new)	Drilling costs	*Joint Association Survey on Drilling Costs*
(20)	Stripper wells	Interstate Oil Compact Commission and National Stripper Well Association
(12-13)	Rank among principal minerals	Based on data from Department of Interior and EIA

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First City Bancorporation of Texas

Forty Year Oil Summary

	PRODUCTION			IMPORTS			OTHER SUPPLY	TOTAL SUPPLY	TOTAL DEMAND	CRUDE RESERVES		CRUDE OIL PRICE
	Crude Oil	NGL	Total	Crude Oil	Refined Products	Total				Proved Reserves	New Reserves	
	(thous. b/d)									(mill. bbls.)		($/bbl.)
1947	5,087	362	5,449	267	170	437	107	5,993	5,938	21,488	2,465	1.93
1948	5,520	401	5,921	353	161	514	93	6,528	6,166	23,280	3,795	2.60
1949	5,046	430	5,476	421	224	645	46	6,167	6,136	24,649	3,188	2.54
1950	5,407	499	5,906	487	363	850	100	6,856	6,861	25,268	2,563	2.51
1951	6,158	561	6,719	491	353	844	57	7,620	7,487	27,468	4,414	2.53
1952	6,256	611	6,867	573	379	952	28	7,847	7,712	27,961	2,749	2.53
1953	6,458	654	7,112	648	386	1,034	30	8,176	8,010	28,945	3,296	2.68
1954	6,342	691	7,033	656	396	1,052	32	8,117	8,119	29,561	2,873	2.78
1955	6,807	771	7,578	782	466	1,248	44	8,870	8,832	30,012	2,871	2.77
1956	7,151	800	7,951	934	502	1,436	52	9,439	9,213	30,435	2,974	2.79
1957	7,170	808	7,978	1,022	552	1,574	61	9,613	9,395	30,300	2,425	3.09
1958	6,710	807	7,517	953	747	1,700	65	9,282	9,394	30,536	2,608	3.01
1959	7,054	879	7,933	966	814	1,780	86	9,799	9,737	31,719	3,667	2.90
1960	7,035	929	7,964	1,016	799	1,815	147	9,926	10,000	31,613	2,365	2.88
1961	7,183	991	8,174	1,045	872	1,917	179	10,270	10,150	31,759	2,658	2.89
1962	7,332	1,021	8,353	1,127	955	2,082	175	10,610	10,568	31,389	2,181	2.90
1963	7,542	1,098	8,640	1,131	992	2,123	202	10,965	10,951	30,970	2,174	2.89
1964	7,614	1,155	8,769	1,198	1,060	2,258	217	11,244	11,225	30,991	2,665	2.88
1965	7,804	1,210	9,014	1,239	1,229	2,468	220	11,702	11,700	31,352	3,048	2.86
1966	8,295	1,284	9,579	1,225	1,348	2,573	246	12,398	12,283	31,452	2,964	2.88
1967	8,810	1,409	10,219	1,128	1,409	2,537	293	13,049	12,867	31,377	2,962	2.92
1968	9,096	1,504	10,600	1,291	1,549	2,840	347	13,787	13,624	30,707	2,455	2.94
1969	9,238	1,590	10,828	1,409	1,757	3,166	339	14,333	14,370	29,632	2,120	3.09
1970	9,637	1,660	11,297	1,324	2,095	3,419	355	15,071	14,956	39,001	2,689	3.18
1971	9,463	1,694	11,157	1,680	2,245	3,925	438	15,520	15,437	38,063	2,318	3.39
1972	9,441	1,744	11,185	2,216	2,525	4,741	431	16,357	16,589	36,339	1,558	3.39
1973	9,208	1,738	10,946	3,244	3,012	6,256	472	17,674	17,539	35,300	2,146	3.89
1974	8,774	1,688	10,462	3,477	2,635	6,112	478	17,052	16,873	34,250	1,994	6.87
1975	8,375	1,632	10,007	4,105	1,951	6,056	631	16,694	16,531	32,682	1,318	7.67
1976	8,132	1,604	9,736	5,287	2,026	7,313	577	17,626	17,684	30,942	1,085	8.19
1977	8,245	1,618	9,863	6,594	2,193	8,787	552	19,202	18,674	31,780	1,140	8.57
1978	8,707	1,567	10,274	6,194	2,008	8,202	476	18,952	19,209	31,355	2,583	9.00
1979	8,552	1,583	10,135	6,452	1,937	8,389	570	19,094	18,987	29,810	1,410	12.64
1980	8,597	1,573	10,170	5,219	1,646	6,865	660	17,695	17,600	29,805	2,970	21.59
1981	8,572	1,609	10,181	4,141	1,599	5,740	646	16,567	16,653	29,426	2,570	31.77
1982	8,649	1,550	10,199	3,323	1,625	4,948	643	15,790	16,111	27,858	1,382	28.52
1983	8,688	1,559	10,247	3,096	1,721	4,817	737	15,801	15,970	27,735	2,897	26.19
1984	8,879	1,630	10,509	3,229	2,011	5,240	784	16,533	16,448	28,446	3,748	25.88
1985	8,971	1,609	10,580	3,083	1,866	4,949	758	16,287	16,507	28,416	3,022	24.09
1986	8,680	1,551	10,231	4,130	2,046	6,176	811	17,218	17,066	26,889	1,446	12.51
1987	8,349	1,595	9,944	4,601	2,004	6,605	841	17,390	17,429	N/A	N/A	15.41

Sources: Energy Information Administration and American Petroleum Institute

Notes: Imports to Strategic Petroleum Reserve are excluded.
Other supply includes refinery processing gain, unaccounted crude oil, and other hydrocarbons.
Reserves estimated as of December 31st each year.

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Forty Year Natural Gas Summary

	NATURAL GAS		GAS RESERVES		NATURAL GAS PRICE	WELL COMPLETIONS					TOTAL FOOTAGE DRILLED
	Marketed Production	Gas Imports	Proved Reserves	New Reserves		Oil Wells	Gas Wells	Dry Holes	Service Wells	Total Wells	
	(Bcf)				($ Mcf)	(number of wells)					(mill. ft.)
1947	4,582	N/A	165,927	10,981	0.06	17,999	3,305	9,538	2,280	33,122	114.1
1948	5,148	N/A	173,869	13,950	0.07	22,585	2,897	12,026	2,270	39,778	137.4
1949	5,420	N/A	180,381	12,757	0.06	22,042	2,887	12,727	1,382	39,038	138.0
1950	6,282	N/A	185,593	12,104	0.07	24,430	2,843	14,757	1,249	43,279	159.3
1951	7,457	N/A	193,812	16,186	0.07	23,453	3,030	16,653	1,380	44,516	172.3
1952	8,013	8	199,716	14,544	0.08	23,466	3,255	17,618	1,482	45,821	187.2
1953	8,397	9	211,447	20,969	0.09	25,762	3,806	18,449	1,262	49,279	198.8
1954	8,743	7	211,711	9,690	0.10	29,773	3,974	19,168	1,012	53,927	219.0
1955	9,405	11	223,697	22,105	0.10	31,567	3,608	20,742	760	56,677	226.3
1956	10,082	10	237,775	24,985	0.11	30,737	4,543	21,797	1,049	58,126	233.9
1957	10,680	38	246,569	20,297	0.11	28,012	4,620	20,976	230	53,838	223.1
1958	11,030	136	254,142	19,058	0.12	24,578	4,803	19,043	1,615	50,039	198.2
1959	12,046	134	262,597	20,895	0.13	25,800	5,029	19,265	1,670	51,764	209.2
1960	12,771	156	263,759	14,253	0.14	21,186	5,258	17,574	2,733	46,751	190.7
1961	13,254	219	267,728	17,421	0.15	21,101	5,664	17,106	3,091	46,962	192.1
1962	13,877	402	273,766	19,750	0.16	21,249	5,848	16,682	2,400	46,179	198.6
1963	14,747	406	276,151	18,418	0.16	20,288	4,751	16,347	2,267	43,653	184.4
1964	15,547	443	281,251	20,447	0.15	20,620	4,855	17,488	2,273	45,236	189.9
1965	16,040	456	286,469	21,470	0.16	18,761	4,724	16,025	1,913	41,423	181.5
1966	17,207	480	289,333	20,355	0.16	16,447	4,167	15,770	2,152	38,536	165.5
1967	18,171	564	292,908	21,956	0.16	15,329	3,659	13,246	1,584	33,818	144.7
1968	19,322	652	287,350	13,816	0.16	14,331	3,456	12,812	2,315	32,914	149.3
1969	20,698	727	275,109	8,482	0.17	14,368	4,083	13,736	1,866	34,053	161.0
1970	21,921	821	290,746	37,598	0.17	13,043	4,031	11,099	1,369	29,542	142.0
1971	22,493	935	278,806	10,136	0.18	11,903	3,983	10,382	1,414	27,682	130.7
1972	22,532	1,019	266,085	9,791	0.19	11,437	5,484	11,013	1,486	29,420	142.5
1973	22,648	1,033	249,950	6,471	0.22	10,251	6,975	10,466	970	28,662	141.9
1974	21,601	959	237,132	8,501	0.30	13,644	7,168	12,205	1,398	34,415	156.7
1975	20,109	953	220,200	10,786	0.45	16,979	8,169	13,736	1,920	40,804	184.9
1976	19,952	964	216,026	7,368	0.58	17,697	9,438	13,805	1,674	42,614	190.9
1977	20,025	1,011	207,413	12,978	0.79	18,700	12,119	15,036	1,453	47,308	219.6
1978	19,974	966	208,033	19,425	0.91	19,065	14,405	16,591	1,610	51,671	242.5
1979	20,471	1,253	200,997	12,221	1.18	20,689	15,166	16,035	1,472	53,362	247.4
1980	20,180	985	199,021	16,723	1.59	32,120	17,132	20,234	2,076	71,562	316.4
1981	19,956	904	201,730	21,446	1.98	42,520	19,742	26,972	2,366	91,600	412.3
1982	18,520	933	201,512	17,288	2.46	38,388	18,584	25,545	2,212	84,729	377.6
1983	16,822	918	200,247	14,523	2.59	38,379	12,770	23,854	2,047	77,050	318.7
1984	18,230	843	197,463	14,409	2.66	43,967	14,943	25,251	2,251	86,412	370.8
1985	17,198	950	193,369	11,891	2.51	36,145	12,690	21,079	1,736	71,650	315.4
1986	16,791	749	191,586	13,827	1.94	18,100	7,739	12,025	696	38,560	168.7
1987	17,150	988	N/A	N/A	1.71	14,918	6,960	10,440	713	33,031	154.6

Sources: Drilling data from American Petroleum Institute and American Association of Petroleum Geologists.
Reserves from American Gas Association and Energy Information Administration.
All other data from Energy Information Administration.

Notes: Drilling data include exploratory and development wells.
Reserves estimated as of December 31st each year.

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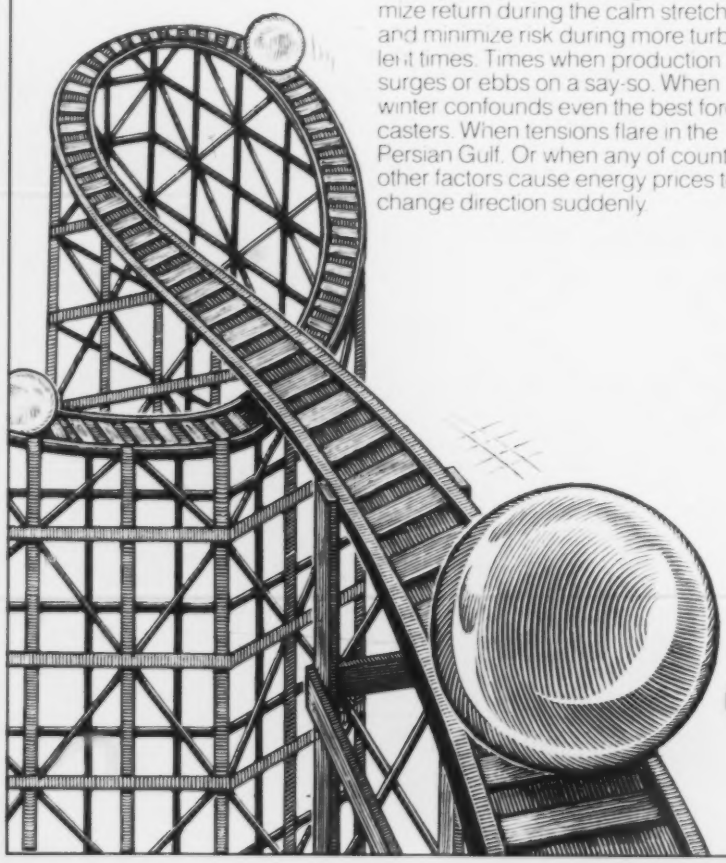

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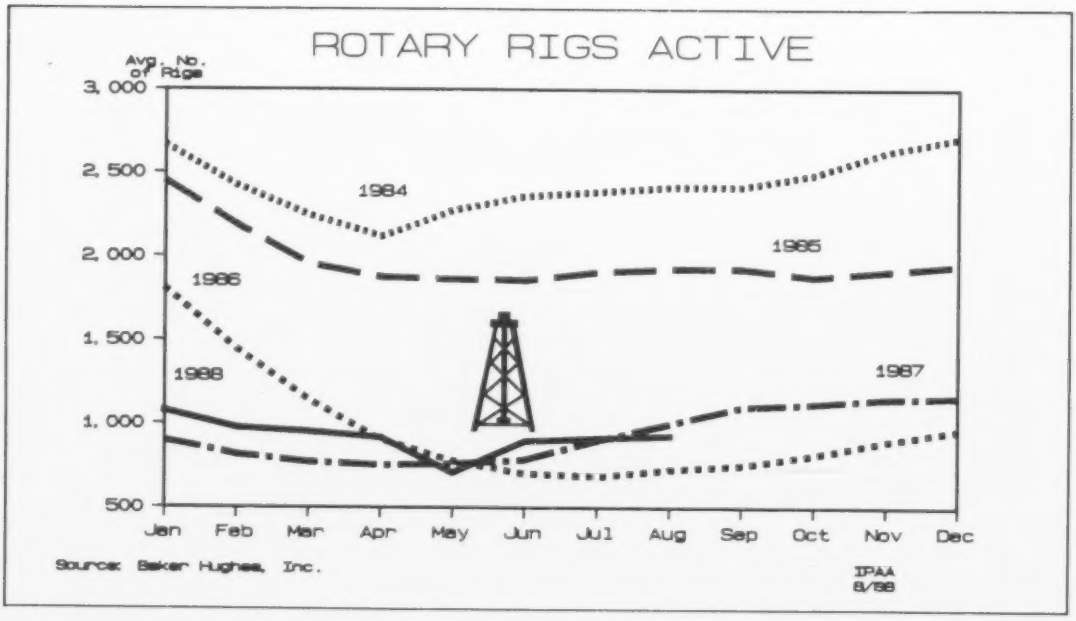

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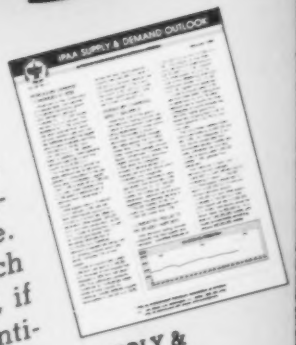

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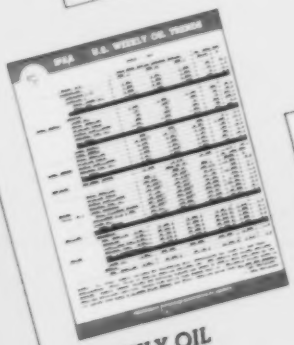

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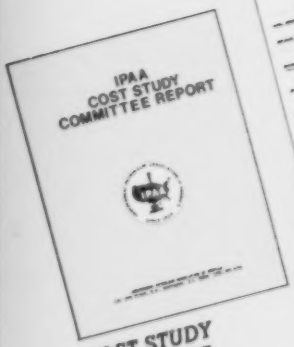

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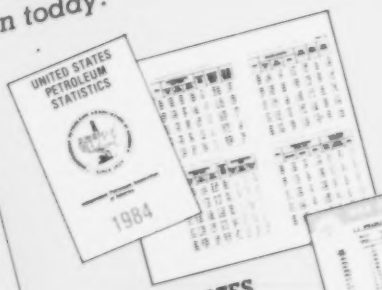

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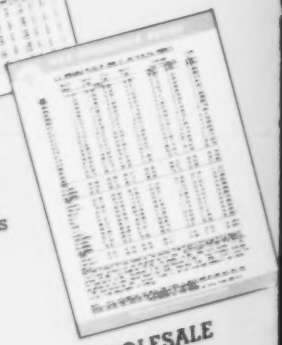

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UNITED STATES

☐ States with oil and/or gas production

Background Information

Number of States 50
With oil and/or gas production 33

First year of production:
Crude oil 1859
Natural gas 1881

Year and amount of peak production:
Crude oil — 3,517,450 thous. bbls. 1970
Natural gas — 22,647,549 MMcf 1973

Deepest well drilled: (ft.)
Crude oil 18,060
Natural gas 26,536
Dry hole 31,441

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	1,739,847	57%
Gas wells	372,181	12%
Dry holes	935,734	31%
Total	3,047,762	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $1,102,169,113

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	172,508	32,533	205,041	903,308
Production	145,619	24,368	169,987	702,199

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $15.41
Natural gas ($/Mcf) $1.71

Wellhead value of 1987 production: (thous. $)
Crude oil $46,960,095
Natural gas $29,335,327
Total $76,295,422

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $5.56
Commercial consumers $4.76
Industrial consumers $2.71
Electric utilities $2.32
All consumers $3.68

Severance taxes paid in 1987 (thous. $) $3,648,658

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	869	14,049	14,918
Gas	660	6,300	6,960
Dry	4,945	5,495	10,440
Service	- -	713	713
Total	6,474	26,557	33,031

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	5,176.2	56,917.6	62,093.8
Gas	4,397.1	33,564.0	37,961.0
Dry	26,685.1	25,645.1	52,330.2
Service	- -	2,258.1	2,258.1
Total	36,258.3	118,384.8	154,643.1

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 3,386
New-field wildcat footage (thous. ft.) 19,982.8

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	- -	- -
Production	- -	- -
Reserves (1986)	- -	- -

Seismic crew months worked 1,561
Average rotary rigs active 936

Number of producing wells: (12/31/87)
- Crude oil 620,181
  - Flowing 32,870
  - Artificial lift 587,311
- Natural gas 253,856
- Total 874,037

Average production:	thous. bbls.	thous. b/d
Crude oil	3,047,378	8,349
NGL	582,175	1,595
Total	3,629,553	9,944

Natural gas marketed production (MMcf) 17,155,162
Average output per producing well:
- Crude oil (bbls.) 4,914
- Natural gas (Mcf) 67,578

Average number of employees in:
- Oil and gas extraction 395,690
- Refining 136,594
- Transportation 177,707
- Wholesale 196,925
- Retail 610,492
- Total petroleum industry 1,517,408

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	1,446	959	2,405
Production	2,973	738	3,711
Net annual change	-1,527	221	-1,306
Proved reserves	26,889	8,165	35,054

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	2,413	12,895	15,308
Production	3,443	12,958	16,401
Net annual change	-1,030	-63	-1,093
Proved reserves	59,577	141,532	201,109

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	5,184,093	284,872	68.35
Gas	3,843,883	522,906	93.02
Dry	4,524,427	389,232	76.53
Total	13,552,403	364,577	76.88

Number of producing stripper wells 460,429
Number of stripper well abandonments 19,233

Stripper well crude oil production:
- (bbls.) 449,446,497
- (b/d) 1,231,360

Percentage of oil produced by stripper wells 14%

Stripper oil reserves as of 12/31/86: (thous. bbls.)
- Primary 2,190,146
- Secondary 1,791,997
- Total 3,982,143

Percentage of total value of principal mineral production:
- Crude oil — ranked 1st 42%
- Natural gas — ranked 2nd 35%

National Energy Contact

Energy Information Administration
Forrestal Building, Room 1F-048
1000 Independence Avenue, S.W.
Washington, D.C. 20585
(202) 586-5000

ALABAMA

☐ Counties with oil and/or gas production

Background Information

Number of counties 67
With oil and/or gas production 16

First year of production:
Crude oil 1944
Natural gas 1904

Year and amount of peak production:
Crude oil — 22,153 thous. bbls. 1980
Natural gas — 117,227 MMcf 1987

Deepest well drilled: (ft.)
Crude oil 18,750
Natural gas 21,650
Dry hole 21,859

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	983	21%
Gas wells	1,041	22%
Dry holes	2,750	57%
Total	4,774	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $5,841,278

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	328	331	659	1,840
Production	273	154	427	839

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $16.76
Natural gas ($/Mcf) $2.75

Wellhead value of 1987 production: (thous. $)
Crude oil $345,373
Natural gas $322,374
Total $667,747

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $6.54
Commercial consumers $5.47
Industrial consumers $2.99
Electric utilities $2.23
All consumers $4.35

Severance taxes paid in 1987 (thous. $) $41,592

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	4	20	24
Gas	9	41	50
Dry	55	53	108
Service	- -	0	0
Total	68	114	182

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	36.9	131.0	167.9
Gas	53.9	145.4	199.3
Dry	396.4	304.6	701.0
Service	- -	0.0	0.0
Total	487.2	581.0	1,068.2

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 55
New-field wildcat footage (thous. ft.) 448.8

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	23rd	17th
Production	16th	15th
Reserves (1986)	19th	17th

Seismic crew months worked 18
Average rotary rigs active 11

Number of producing wells: (12/31/87)
Crude oil 875
Flowing 68
Artificial lift 807
Natural gas 1,100
Total 1,975

Average production:	thous. bbls.	thous. b/d
Crude oil	20,607	56
NGL	5,840	16
Total	26,447	72

Natural gas marketed production (MMcf) 117,227
Average output per producing well:
Crude oil (bbls.) 23,551
Natural gas (Mcf) 106,570

Average number of employees in:
Oil and gas extraction 1,312
Refining 523
Transportation 3,206
Wholesale 5,116
Retail 7,951
Total petroleum industry 18,108

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	-2	10	8
Production	12	15	27
Net annual change	-14	-5	-19
Proved reserves	55	177	232

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	5	221	226
Production	9	90	99
Net annual change	-4	131	127
Proved reserves	48	953	1001

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	14,916	514,359	76.05
Gas	25,583	419,389	97.71
Dry	90,212	727,513	124.10
Total	130,711	610,798	109.28

Number of producing stripper wells 124
Number of stripper well abandonments 2

Stripper well crude oil production:
(bbls.) 190,827
(b/d) 523
Percentage of oil produced by stripper wells 2%

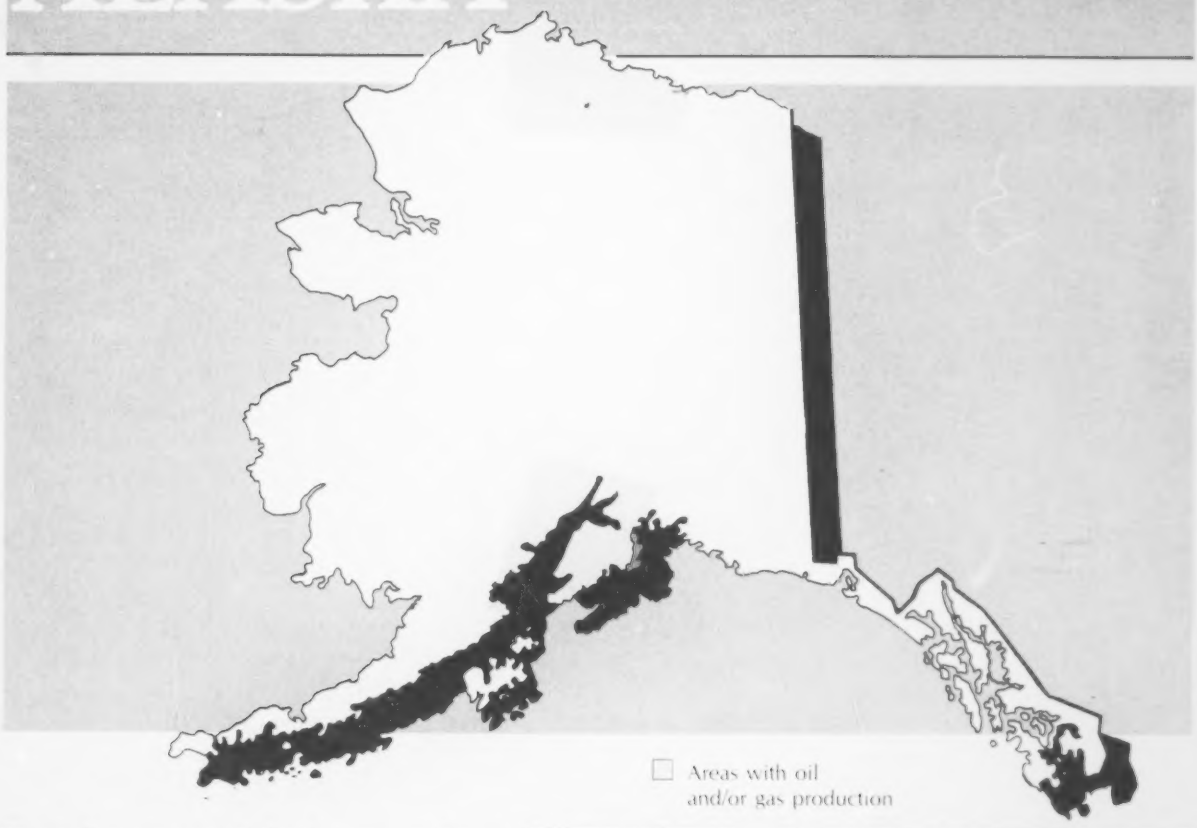
Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 412
Secondary 139
Total 432

Percentage of total value of principal mineral production:
Crude oil — ranked 3rd 14%
Natural gas — ranked 2nd 15%

State Energy Contact

Alabama State Oil and Gas Board
P.O. Box O
Tuscaloosa, AL 35486
(205) 349-2852

ALASKA



Background Information

Number of counties ..... Not Applicable
With oil and/or gas production ..... Not Applicable

First year of production:
Crude oil 1905
Natural gas 1945

Year and amount of peak production:
Crude oil — 715,955 thous. bbls. 1987
Natural gas — 359,743 MMcf 1987

Deepest well drilled: (ft.)
Crude oil 14,952
Natural gas 16,073
Dry hole 20,335

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	1,179	73%
Gas wells	121	5%
Dry holes	539	22%
Total	2,439	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $90,010,879

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	13,200	397	13,597	37,222
Production	6,325	16	6,341	3,867

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $10.95
Natural gas ($/Mcf) $1.19

Wellhead value of 1987 production: (thous. $)
Crude oil $7,839,707
Natural gas $428,094
Total $8,267,801

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $3.25
Commercial consumers $2.14
Industrial consumers $0.76
Electric utilities ..... N/A
All consumers $1.32

Severance taxes paid in 1987 (thous. $) $41,592

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	0	82	82
Gas	0	1	1
Dry	3	2	5
Service	- -	1	1
Total	3	86	89

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	0.0	860.3	860.3
Gas	0.0	7.5	7.5
Dry	10.4	14.5	24.9
Service	- -	10.9	10.9
Total	10.4	893.2	903.6

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 3
New-field wildcat footage (thous. ft.) 10.4

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	17th	27th
Production	2nd	8th
Reserves (1986)	2nd	2nd

Seismic crew months worked 5
Average rotary rigs active 8

Number of producing wells: (12/31/87)
Crude oil 1,216
Flowing 621
Artificial lift 595
Natural gas 87
Total 1,303

Average production:	thous. bbls.	thous. b/d
Crude oil	715,955	1,962
NGL	1,460	4
Total	717,415	1,966

Natural gas marketed production (MMcf) 359,743
Average output per producing well:
Crude oil (bbls.) 588,779
Natural gas (Mcf) 4,134,977

Average number of employees in:
Oil and gas extraction 8,063
Refining 261
Transportation 1,166
Wholesale 530
Retail 1,069
Total petroleum industry 11,089

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	489	1	490
Production	670	3	673
Net annual change	-181	-2	-183
Proved reserves	6,875	381	7,256

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	-50	-490	-540
Production	149	179	328
Net annual change	-199	-669	-868
Proved reserves	30,893	2,462	33,355

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	533,524	2,260,963	231.74
Gas	9,678	3,225,936	427.31
Dry	110,011	6,111,712	681.25
Total	653,212	2,541,682	262.72

Number of producing stripper wells 0
Number of stripper well abandonments 0

Stripper well crude oil production:
(bbls.) 0
(b/d) 0
Percentage of oil produced by stripper wells 0

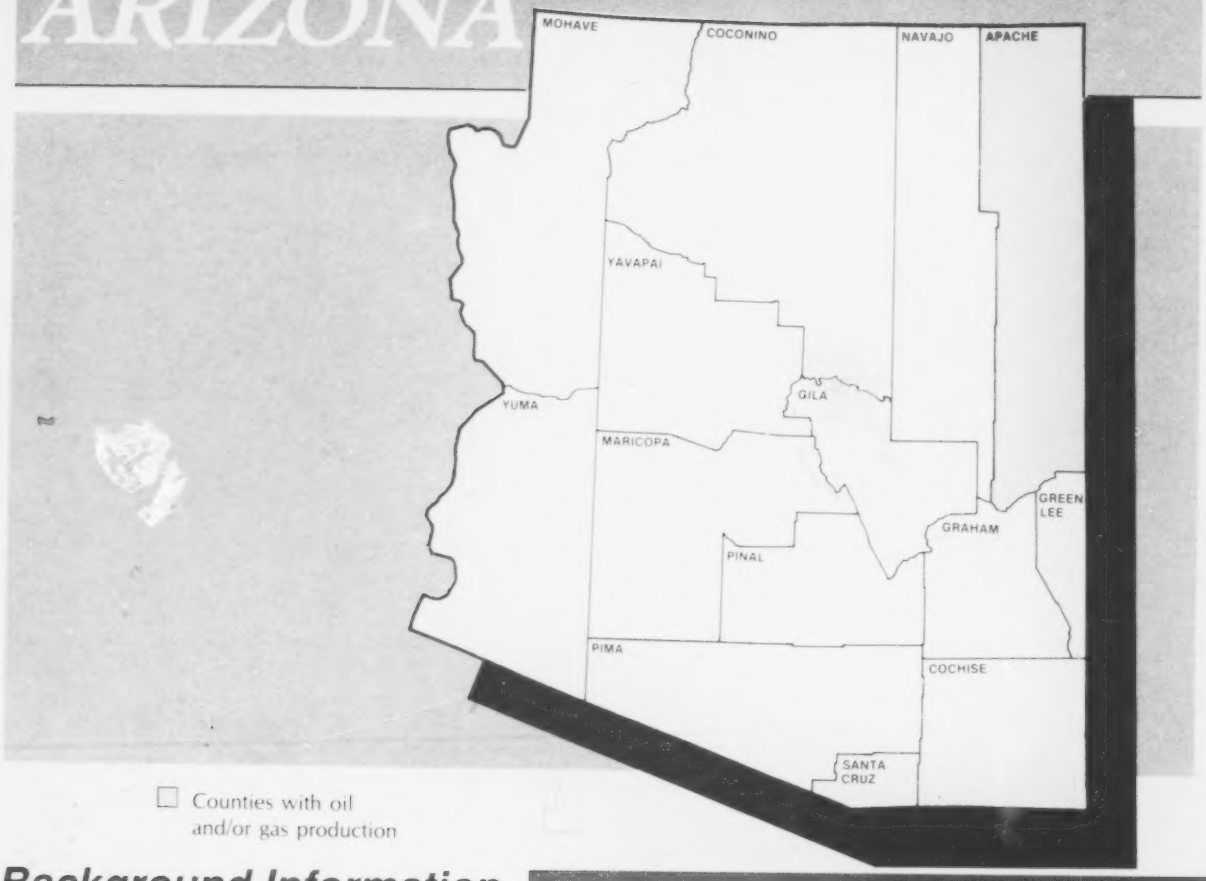
Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 0
Secondary 0
Total 0

Percentage of total value of principal mineral production:
Crude oil — ranked 1st 94%
Natural gas — ranked 2nd 3%

State Energy Contact

Alaska Oil and Gas Conservation Committee
3001 Porcupine Drive
Anchorage, AK 99501
(907) 279-1433

ARIZONA



☐ Counties with oil and/or gas production

Background Information

Number of counties 14
With oil and/or gas production 1

First year of production:
Crude oil 1954
Natural gas 1955

Year and amount of peak production:
Crude oil — 3,370 thous. bbls. 1968
Natural gas — 3,161 MMcf 1966

Deepest well drilled: (ft.)
Crude oil 6,793
Natural gas ..... N/A
Dry hole 18,013

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	49	10%
Gas wells	35	7%
Dry holes	397	83%
Total	481	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $70,772,261

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	N/A	0	0	N/A
Production	N/A	0	0	N/A

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $17.35
Natural gas ($/Mcf) $1.75

Wellhead value of 1987 production: (thous. $)
Crude oil $2,273
Natural gas $140
Total $2,413

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $6.18
Commercial consumers $4.57
Industrial consumers $3.72
Electric utilities $2.26
All consumers $4.41

Severance taxes paid in 1987 ..... Not Applicable

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	0	0	0
Gas	0	0	0
Dry	4	0	4
Service	- -	0	0
Total	4	0	4

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	0.0	0.0	0.0
Gas	0.0	0.0	0.0
Dry	19.6	0.0	19.6
Service	- -	0.0	0.0
Total	19.6	0.0	19.6

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 4
New-field wildcat footage (thous. ft.) 19.6

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	- -	- -
Production	29th	30th
Reserves (1986)	N/A	N/A

Seismic crew months worked 1
Average rotary rigs active 0

Number of producing wells: (12/31/87)
Crude oil 23
Flowing 0
Artificial lift 23
Natural gas ..... N/A
Total 23

Average production:	thous. bbls.	thous. b/d
Crude oil	131	- -
NGL	0	- -
Total	131	- -

Natural gas marketed production (MMcf) 80
Average output per producing well:
Crude oil (bbls.) 5,696
Natural gas (Mcf) ..... N/A

Average number of employees in:
Oil and gas extraction 105
Refining 0
Transportation 1,988
Wholesale 1,311
Retail 8,662
Total petroleum industry 12,066

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	N/A	0	0
Production	N/A	0	0
Net annual change	N/A	0	0
Proved reserves	N/A	0	0

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	- -	- -	N/A
Production	- -	- -	N/A
Net annual change	- -	- -	N/A
Proved reserves	- -	- -	N/A

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	N/A	- -	- -
Gas	N/A	- -	- -
Dry	N/A	- -	- -
Total	N/A	- -	- -

Number of producing stripper wells 16
Number of stripper well abandonments 0

Stripper well crude oil production:
(bbls.) 25,490
(b/d) 70
Percentage of oil produced by stripper wells 16%

Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 70
Secondary 0
Total 70

Percentage of total value of principal mineral production:
Crude oil — ranked 8th ..... Less than 1%
Natural gas -- ranked 11th ..... Less than 1%

State Energy Contact

Arizona Oil and Gas Conservation Commission
3110 North 19th Avenue
Suite 190
Phoenix, AZ 85015
(602) 255-5161

ARKANSAS

☐ Counties with oil and/or gas production

Background Information

Number of counties 75
With oil and/or gas production 24

First year of production:
Crude oil 1921
Natural gas 1889

Year and amount of peak production:
Crude oil — 77,398 thous. bbls. 1925
Natural gas — 181,351 MMcf 1970

Deepest well drilled: (ft.)
Crude oil 12,128
Natural gas 11,195
Dry hole 17,349

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	17,813	52%
Gas wells	3,584	11%
Dry holes	12,779	37%
Total	34,176	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $7,598,378

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	1,688	97	1,785	6,602
Production	1,600	81	1,681	4,431

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $17.23
Natural gas ($/Mcf) $2.00

Wellhead value of 1987 production: (thous. $)
Crude oil $245,183
Natural gas $263,642
Total $508,825

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $4.71
Commercial consumers $4.26
Industrial consumers $3.43
Electric utilities $1.57
All consumers $3.55

Severance taxes paid in 1987 (thous. $) $9,726

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	7	55	62
Gas	11	155	166
Dry	67	108	175
Service	- -	0	0
Total	85	318	403

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	46.3	239.8	286.0
Gas	47.7	687.3	735.1
Dry	274.3	456.6	731.0
Service	- -	0.0	0.0
Total	368.3	1,383.7	1,752.1

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 65
New-field wildcat footage (thous. ft.) 253.0

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	18th	12th
Production	17th	14th
Reserves (1986)	16th	12th

Seismic crew months worked 1
Average rotary rigs active 9

Number of producing wells: (12/31/87)
Crude oil 8,398
Flowing 185
Artificial lift 8,213
Natural gas 2,847
Total 11,245

Average production:	thous. bbls.	thous. b/d
Crude oil	14,230	39
NGL	730	2
Total	14,960	41

Natural gas marketed production (MMcf) 131,821
Average output per producing well:
Crude oil (bbls.) 1,694
Natural gas (Mcf) 46,302

Average number of employees in:
Oil and gas extraction 2,576
Refining 0
Transportation 2,154
Wholesale 2,795
Retail 5,330
Total petroleum industry 12,855

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	6	6	12
Production	15	1	16
Net annual change	-9	5	-4
Proved reserves	88	16	104

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	0	105	105
Production	7	119	126
Net annual change	-7	-14	-21
Proved reserves	150	1,861	2,011

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	16,824	111,420	34.56
Gas	48,441	314,551	67.36
Dry	21,616	122,816	29.58
Total	86,881	180,626	44.86

Number of producing stripper wells 4,416
Number of stripper well abandonments 110

Stripper well crude oil production:
(bbls.) 5,113,518
(b/d) 14,010
Percentage of oil produced by stripper wells 32%

Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 72,731
Secondary 13,821
Total 86,552

Percentage of total value of principal mineral production:
Crude oil — ranked 2nd 28%
Natural gas — ranked 1st 40%

State Energy Contact

Arkansas Oil and Gas Commission
314 East Oak Street
El Dorado, AR 71730
(501) 862-4965

CALIFORNIA

☐ Counties with oil and/or gas production

Background Information

Number of counties 58
With oil and/or gas production 30

First year of production:
Crude oil 1861
Natural gas 1889

Year and amount of peak production:
Crude oil — 423,877 thous. bbls. 1985
Natural gas — 714,893 MMcf 1968

Deepest well drilled: (ft.)
Crude oil 18,060
Natural gas ..... 18,0[illegible]3
Dry hole 22,711

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	109,628	78%
Gas wells	3,443	3%
Dry holes	26,832	19%
Total	139,903	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $114,576,296

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	26,585	1,360	27,945	37,019
Production	21,207	1,211	22,418	31,358

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $13.91
Natural gas ($/Mcf) $1.69

Wellhead value of 1987 production: (thous. $)
Crude oil $5,504,159
Natural gas $723,210
Total $6,227,369

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $5.27
Commercial consumers $5.00
Industrial consumers $3.95
Electric utilities $2.60
All consumers $4.07

Severance taxes paid in 1987 (thous. $) $14,600
(Property taxes applied to minerals)

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	7	1,982	1,989
Gas	20	47	67
Dry	127	54	181
Service	- -	106	106
Total	154	2,189	2,343

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	51.6	3,809.0	3,860.6
Gas	137.0	326.7	463.6
Dry	854.7	251.7	1,106.4
Service	- -	181.7	181.7
Total	1,043.3	4,569.1	5,612.3

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 70
New-field wildcat footage (thous. ft.) 495.7

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	2nd	15th
Production	4th	6th
Reserves (1986)	3rd	8th

Seismic crew months worked 113
Average rotary rigs active 61

Number of producing wells: (12/31/87)
Crude oil 45,694
Flowing 1,210
Artificial lift 44,484
Natural gas 1,293
Total 46,987

Average production:	thous. bbls.	thous. b/d
Crude oil	395,698	1,084
NGL	5,110	14
Total	400,808	1,098

Natural gas marketed production (MMcf) 427,935
Average output per producing well:
Crude oil (bbls.) 8,660
Natural gas (Mcf) 330,963

Average number of employees in:
Oil and gas extraction 32,282
Refining 24,870
Transportation 12,639
Wholesale 14,999
Retail 63,918
Total petroleum industry 148,708

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	-16	3	-13
Production	407	12	419
Net annual change	-423	-9	-432
Proved reserves	5,708	149	5,857

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	394	82	476
Production	230	209	439
Net annual change	-164	-127	37
Proved reserves	3,770	1,651	5,421

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	401,872	176,725	89.56
Gas	52,895	594,322	87.02
Dry	81,088	555,396	81.07
Total	535,855	213,573	87.91

Number of producing stripper wells 29,044
Number of stripper well abandonments 614

Stripper well crude oil production:
(bbls.) 37,181,724
(b/d) 101,868
Percentage of oil produced by stripper wells 10%

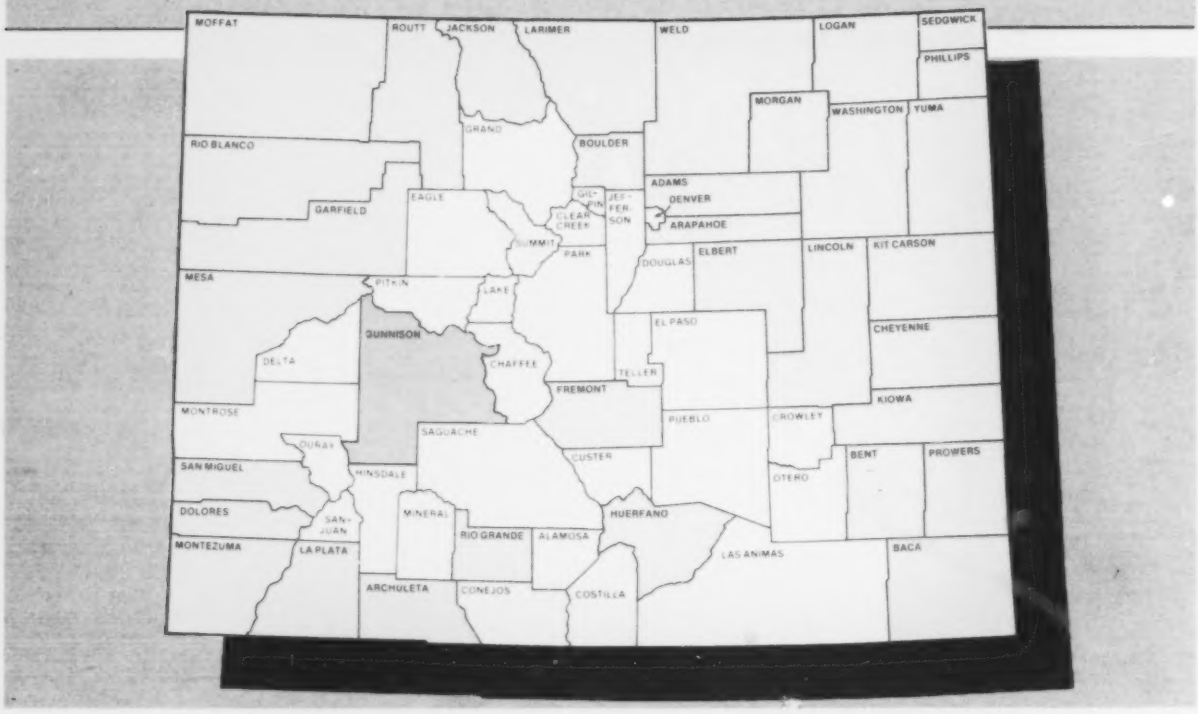
Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 187,625
Secondary 68,025
Total 255,650

Percentage of total value of principal mineral production:
Crude oil — ranked 1st 57%
Natural gas — ranked 2nd 16%

State Energy Contact

California Department of Conservation
Division of Oil and Gas
1416 Ninth Street, Room 1310
Sacramento, CA 95814
(916) 445-9686

COLORADO



☐ Counties with oil and/or gas production

Background Information

Number of counties 63
With oil and/or gas production 34

First year of production:
Crude oil 1862
Natural gas 1893

Year and amount of peak production:
Crude oil — 58,516 thous. bbls. 1956
Natural gas — 209,892 MMcf 1982

Deepest well drilled: (ft.)
Crude oil 12,704
Natural gas 17,632
Dry hole 22,092

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	11,480	29%
Gas wells	7,333	19%
Dry holes	20,725	52%
Total	39,538	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $11,501,719

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	1,669	328	1,997	7,828
Production	1,462	180	1,642	4,630

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $17.71
Natural gas ($/Mcf) $1.76

Wellhead value of 1987 production: (thous. $)
Crude oil $510,083
Natural gas $286,011
Total $796,094

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $4.74
Commercial consumers $4.11
Industrial consumers $3.53
Electric utilities $2.29
All consumers $4.26

Severance taxes paid in 1987(thous. $) $17,468

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	43	220	263
Gas	16	307	323
Dry	195	86	281
Service	- -	4	4
Total	254	617	871

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	255.1	1,403.8	1,658.9
Gas	96.2	2,039.1	2,135.4
Dry	1,072.1	504.6	1,576.7
Service	- -	26.4	26.4
Total	1,423.5	3,973.9	5,397.4

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 164
New-field wildcat footage (thous. ft.) 891.1

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	10th	8th
Production	11th	11th
Reserves (1986)	12th	9th

Seismic crew months worked 109
Average rotary rigs active 25

Number of producing wells: (12/31/87)
Crude oil 5,642
Flowing 491
Artificial lift 5,151
Natural gas 3,948
Total 9,590

Average production:	thous. bbls.	thous. b/d
Crude oil	28,802	79
NGL	4,380	12
Total	33,182	91

Natural gas marketed production (MMcf) 162,506
Average output per producing well:
Crude oil (bbls.) 5,105
Natural gas (Mcf) 41,162

Average number of employees in:
Oil and gas extraction 14,300
Refining 1,590
Transportation 2,128
Wholesale 2,216
Retail 8,271
Total petroleum industry 28,505

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	38	-15	23
Production	29	10	39
Net annual change	9	-25	-16
Proved reserves	207	148	355

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	56	246	302
Production	33	166	199
Net annual change	23	80	103
Proved reserves	190	3,008	3,198

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	84,767	278,839	41.93
Gas	109,650	266,788	42.06
Dry	95,032	297,905	53.34
Total	289,449	279,931	45.15

Number of producing stripper wells 4,269
Number of stripper well abandonments 98

Stripper well crude oil production:
(bbls.) 6,216,354
(b/d) 17,031
Percentage of oil produced by stripper wells 24%

Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 44,295
Secondary 7,118
Total 51,413

Percentage of total value of principal mineral production:
Crude oil — ranked 1st 28%
Natural gas — ranked 3rd 23%

State Energy Contact

Colorado Oil & Gas Conservation Commission
1580 Logan Street
Suite 380
Denver, CO 80203
(303) 866-3531

FLORIDA

☐ Counties with oil and/or gas production

Background Information

Number of counties 67
With oil and/or gas production 5

First year of production:
Crude oil 1943
Natural gas 1943

Year and amount of peak production:
Crude oil — 47,536 thous. bbls. 1978
Natural gas — 51,595 MMcf 1978

Deepest well drilled: (ft.)
Crude oil 16,130
Natural gas 17,452
Dry hole 23,264

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	281	29%
Gas wells	3	0%
Dry holes	691	71%
Total	975	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $8,115,228

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	641	77	718	553
Production	574	63	637	484

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $16.05
Natural gas ($/Mcf) $1.92

Wellhead value of 1987 production: (thous. $)
Crude oil $132,734
Natural gas $16,186
Total $148,919

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $7.48
Commercial consumers $4.85
Industrial consumers $2.96
Electric utilities $2.73
All consumers $3.36

Severance taxes paid in 1987 (thous. $) $9,601

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	0	2	2
Gas	0	0	0
Dry	4	3	7
Service	- -	0	0
Total	4	5	9

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	0.0	26.2	26.2
Gas	0.0	0.0	0.0
Dry	47.6	42.2	89.7
Service	- -	0.0	0.0
Total	47.6	68.4	116.0

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 4
New-field wildcat footage (thous. ft.) 47.6

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	25th	N/A
Production	19th	23rd
Reserves (1986)	18th	23rd

Seismic crew months worked 8
Average rotary rigs active 3

Number of producing wells: (12/31/87)
Crude oil 122
Flowing 57
Artificial lift 65
Natural gas 0
Total 122

Average production:	thous. bbls.	thous. b/d
Crude oil	8,270	23
NGL	1,095	3
Total	9,365	26

Natural gas marketed production (MMcf) 8,430
Average output per producing well:
Crude oil (bbls.) 67,787
Natural gas (Mcf) 0

Average number of employees in:
Oil and gas extraction 680
Refining 253
Transportation 2,210
Wholesale 6,630
Retail 27,777
Total petroleum industry 39,550

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	1	-1	0
Production	11	2	13
Net annual change	-10	-3	-13
Proved reserves	67	14	81

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	-1	0	-1
Production	11	0	11
Net annual change	-12	0	-12
Proved reserves	69	0	69

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	13,823	2,303,818	154.57
Gas	- -	- -	- -
Dry	9,655	1,379,356	95.15
Total	23,478	1,806,031	122.99

Number of producing stripper wells 0
Number of stripper well abandonments 0

Stripper well crude oil production:
(bbls.) 0
(b/d) 0
Percentage of oil produced by stripper wells 0

Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 0
Secondary 0
Total 0

Percentage of total value of principal mineral production:
Crude oil — ranked 2nd 14%
Natural gas — ranked 8th 1%

State Energy Contact

Florida Bureau of Geology
Division of Resource Management
903 West Tennessee Street
Tallahasee, FL 32304
(904) 488-4191

ILLINOIS

☐ Counties with oil and/or gas production

Background Information

Number of counties 102
With oil and/or gas production 47

First year of production:
Crude oil 1889
Natural gas 1882

Year and amount of peak production:
Crude oil —147,647 thous. bbls 1940
Natural gas — 18,137 MMcf 1944

Deepest well drilled: (ft.)
Crude oil 5,405
Natural gas 4,832
Dry hole 14,942

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	79,379	61%
Gas wells	1,604	1%
Dry holes	50,090	38%
Total	131,073	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $14,844,252

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	3,384	N/A	3,384	N/A
Production	3,249	N/A	3,249	N/A

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $17.53
Natural gas ($/Mcf) $2.24

Wellhead value of 1987 production: (thous. $)
Crude oil $420,369
Natural gas $6,664
Total $427,033

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $4.83
Commercial consumers $4.38
Industrial consumers $3.85
Electric utilities $3.71
All consumers $4.53

Severance taxes paid in 1987 ..... Not Applicable

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	12	673	685
Gas	2	16	18
Dry	206	273	479
Service	- -	94	94
Total	220	1,056	1,276

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	34.4	1,495.4	1,529.8
Gas	810.0	10.4	11.2
Dry	376.5	675.5	1,052.0
Service	- -	111.7	111.7
Total	411.7	2,293.0	2,704.7

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 97
New-field wildcat footage (thous. ft.) 154.5

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	7th	21st
Production	15th	26th
Reserves (1986)	15th	N/A

Seismic crew months worked ..... N/A
Average rotary rigs active 3

Number of producing wells: (12/31/87)
Crude oil 32,307
Flowing 0
Artificial lift 32,307
Natural gas 238
Total 32,545

Average production:	thous. bbls.	thous. b/d
Crude oil	23,980	66
NGL	N/A	N/A
Total	23,980	66

Natural gas marketed production (MMcf) 2,975
Average output per producing well:
Crude oil (bbls.) 742
Natural gas (Mcf) 12,500

Average number of employees in:
Oil and gas extraction 3,799
Refining 8,345
Transportation 8,756
Wholesale 9,408
Retail 25,922
Total petroleum industry 56,230

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	20	N/A	20
Production	21	N/A	21
Net annual change	-1	N/A	-1
Proved reserves	135	N/A	135

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	- -	- -	N/A
Production	- -	- -	N/A
Net annual change	- -	- -	N/A
Proved reserves	- -	- -	N/A

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	55,712	82,171	35.73
Gas	489	21,251	28.36
Dry	18,363	39,490	19.30
Total	74,564	63,948	29.50

Number of producing stripper wells 31,649
Number of stripper well abandonments 343

Stripper well crude oil production:
(bbls.) 24,157,200
(b/d) 66,184
Percentage of oil produced by stripper wells 89%

Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 54,175
Secondary 56,380
Total 110,555

Percentage of total value of principal mineral production:
Crude oil — ranked 2nd 22%
Natural gas — ranked 7th ..... Less than 1%

State Energy Contact

Illinois Department of Mines and Minerals
704 William G. Stratton Building
Springfield, IL 62706
(217) 782-7756

INDIANA

☐ Counties with oil and/or gas production

Background Information

Number of counties 92
With oil and/or gas production 40

First year of production:
Crude oil 1889
Natural gas 1885

Year and amount of peak production:
Crude oil — 12,823 thous. bbls. 1953
Natural gas — 2,241 MMcf 1936

Deepest well drilled: (ft.)
Crude oil 4,508
Natural gas 3,335
Dry hole 7,980

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	38,407	59%
Gas wells	2,183	3%
Dry holes	25,003	38%
Total	65,593	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $2,493,141

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	533	N/A	533	N/A
Production	501	N/A	501	N/A

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $17.49
Natural gas ($/Mcf) $1.71

Wellhead value of 1987 production: (thous. $)
Crude oil $65,378
Natural gas $855
Total $66,233

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $4.95
Commercial consumers $4.44
Industrial consumers $3.42
Electric utilities $2.87
All consumers $4.36

Severance taxes paid in 1987 (thous. $) $867

Compiled by IPAA–September 1988

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	28	93	121
Gas	4	9	13
Dry	105	64	169
Service	- -	14	14
Total	137	180	317

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	40.9	118.0	158.9
Gas	4.2	8.2	12.4
Dry	173.6	100.9	274.5
Service	- -	16.4	16.4
Total	218.8	243.5	462.3

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 39
New-field wildcat footage (thous. ft.) 54.0

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	12th	23rd
Production	22nd	29th
Reserves (1986)	22nd	N/A

Seismic crew months worked 1
Average rotary rigs active 1

Number of producing wells: (12/31/87)
Crude oil 7,449
Flowing 0
Artificial lift 7,449
Natural gas 808
Total 8,257

Average production:	thous. bbls.	thous. b/d
Crude oil	3,738	10
NGL	N/A	N/A
Total	3,738	10

Natural gas marketed production (MMcf) 500
Average output per producing well:
Crude oil (bbls.) 501
Natural gas (Mcf) 618

Average number of employees in:
Oil and gas extraction 599
Refining 2,611
Transportation 3,356
Wholesale 3,284
Retail 17,537
Total petroleum industry 27,387

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	3	N/A	3
Production	6	N/A	6
Net annual change	-3	N/A	-3
Proved reserves	32	N/A	32

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	- -	- -	N/A
Production	- -	- -	N/A
Net annual change	- -	- -	N/A
Proved reserves	- -	- -	N/A

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	8,102	48,225	31.79
Gas	981	49,066	37.39
Dry	6,119	34,186	19.88
Total	15,202	41,423	25.81

Number of producing stripper wells 5,165
Number of stripper well abandonments 397

Stripper well crude oil production:
(bbls.) 3,827,265
(b/d) 10,486
Percentage of oil produced by stripper wells 80%

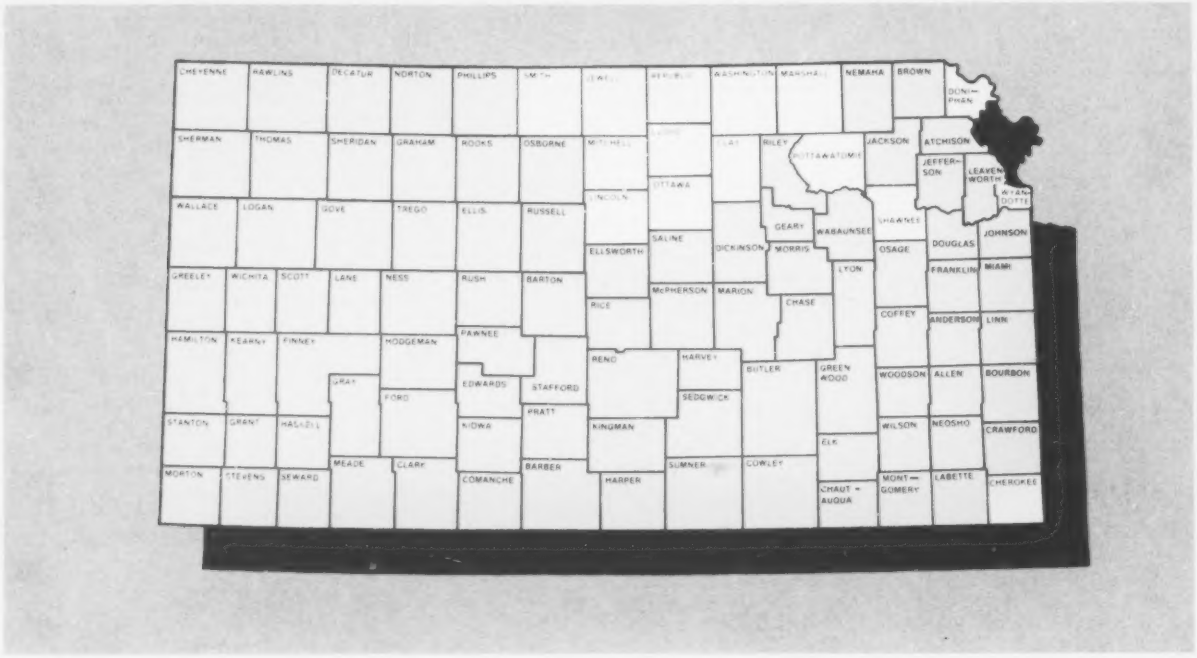
Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 20,665
Secondary 15,585
Total 36,250

Percentage of total value of principal mineral production:
Crude oil — ranked 4th 6%
Natural gas — ranked 9th ..... Less than 1%

State Energy Contact

Indiana Department of Natural Resources
Division of Oil and Gas
911 State Office Building, Room 911B
Indianapolis, IN 46204
(317) 232-4055

KANSAS



☐ Counties with oil and/or gas production

Background Information

Number of counties 105
With oil and/or gas production 90

First year of production:
Crude oil 1889
Natural gas 1882

Year and amount of peak production:
Crude oil — 124,204 thous. bbls. 1956
Natural gas — 899,955 MMcf 1970

Deepest well drilled: (ft.)
Crude oil 7,400
Natural gas 6,774
Dry hole 11,300

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	120,704	51%
Gas wells	22,807	10%
Dry holes	92,739	39%
Total	236,250	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $29,990,224

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	5,639	1,196	6,835	40,553
Production	5,327	756	6,083	29,460

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $17.37
Natural gas ($/Mcf) $1.15

Wellhead value of 1987 production: (thous. $)
Crude oil $1,040,185
Natural gas $454,142
Total $1,494,327

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $4.08
Commercial consumers $3.15
Industrial consumers $3.15
Electric utilities $2.12
All consumers $3.38

Severance taxes paid in 1987 (thous. $) $159,942

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	244	952	1,196
Gas	67	312	379
Dry	923	581	1,504
Service	- -	6	6
Total	1,234	1,851	3,085

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	983.9	2,270.0	3,253.9
Gas	280.5	813.6	1,094.2
Dry	3,581.9	1,726.4	5,308.4
Service	- -	19.3	19.3
Total	4,846.3	4,829.3	9,675.7

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 676
New-field wildcat footage (thous. ft.) 2,661.4

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	4th	7th
Production	8th	7th
Reserves (1986)	8th	6th

Seismic crew months worked 19
Average rotary rigs active 49

Number of producing wells: (12/31/87)
Crude oil 48,051
Flowing 70
Artificial lift 47,981
Natural gas 11,280
Total 59,331

Average production:	thous. bbls.	thous. b/d
Crude oil	59,884	164
NGL	8,030	22
Total	67,914	186

Natural gas marketed production (MMcf) 394,906
Average output per producing well:
Crude oil (bbls.) 1,246
Natural gas (Mcf) 35,009

Average number of employees in:
Oil and gas extraction 9,733
Refining 2,667
Transportation 4,716
Wholesale 2,247
Retail 8,543
Total petroleum industry 27,906

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	-53	86	33
Production	58	19	77
Net annual change	-111	67	-44
Proved reserves	312	440	752

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	39	1,697	1,736
Production	22	465	487
Net annual change	17	1,232	1,249
Proved reserves	132	10,961	11,093

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	108,690	84,584	28.73
Gas	45,092	119,924	42.94
Dry	78,935	59,171	16.43
Total	232,716	77,702	24.15

Number of producing stripper wells 50,182
Number of stripper well abandonments 1,584

Stripper well crude oil production:
(bbls.) 61,434,880
(b/d) 168,315
Percentage of oil produced by stripper wells 92%

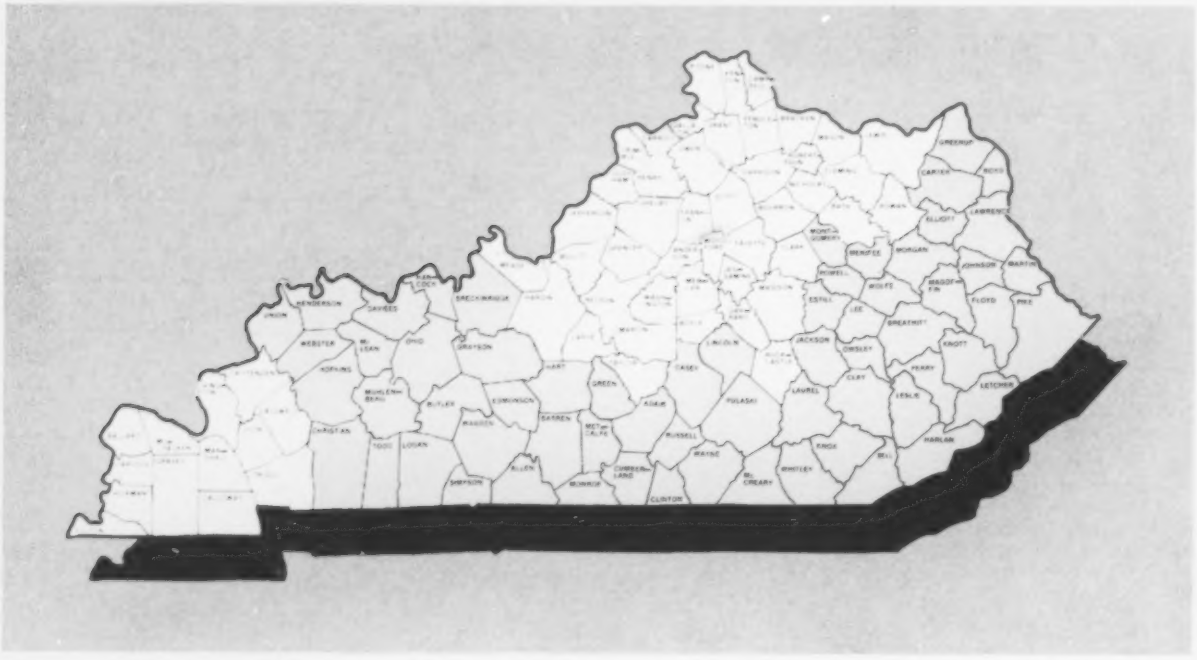
Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 161,550
Secondary 126,930
Total 288,480

Percentage of total value of principal mineral production:
Crude oil — ranked 1st 51%
Natural gas — ranked 2nd 30%

State Energy Contact

Kansas Corporation Commission
202 West 1st Street
Colorado Derby Building, Suite 200
Wichita, KS 67202
(316) 263-3238

KENTUCKY



☐ Counties with oil and/or gas production

Background Information

Number of counties 120
With oil and/or gas production 63

First year of production:
Crude oil 1860
Natural gas 1888

Year and amount of peak production:
Crude oil — 27,272 thous. bbls. 1959
Natural gas — 96,459 MMcf 1947

Deepest well drilled: (ft.)
Crude oil 7,598
Natural gas 10,934
Dry hole 15,200

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	52,736	51%
Gas wells	11,532	11%
Dry holes	39,434	38%
Total	103,702	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $16,046,240

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	721	147	868	4,683
Production	690	118	808	3,798

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $17.19
Natural gas ($/Mcf) $1.82

Wellhead value of 1987 production: (thous. $)
Crude oil $98,722
Natural gas $161,070
Total $259,792

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $4.50
Commercial consumers $4.44
Industrial consumers $3.65
Electric utilities $2.85
All consumers $4.24

Severance taxes paid in 1987 (thous. $) $9,727

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	8	164	172
Gas	9	221	230
Dry	91	133	224
Service	- -	9	9
Total	108	527	635

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	22.1	281.3	303.4
Gas	12.1	490.7	502.9
Dry	145.8	189.7	335.5
Service	- -	13.0	13.0
Total	180.0	974.7	1,154.9

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 49
New-field wildcat footage (thous. ft.) 81.7

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	11th	9th
Production	21st	18th
Reserves (1986)	23rd	18th

Seismic crew months worked ..... N/A
Average rotary rigs active 2

Number of producing wells: (12/31/87)
Crude oil 22,974
Flowing 0
Artificial lift 22,974
Natural gas 10,493
Total 33,467

Average production:	thous. bbls.	thous. b/d
Crude oil	5,743	16
NGL	1,095	3
Total	6,838	19

Natural gas marketed production (MMcf) 88,500
Average output per producing well:
Crude oil (bbls.) 250
Natural gas (Mcf) 8,434

Average number of employees in:
Oil and gas extraction 2,290
Refining 3,797
Transportation 3,381
Wholesale 3,055
Retail 10,374
Total petroleum industry 22,897

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	-6	4	-2
Production	5	2	7
Net annual change	-11	2	-9
Proved reserves	31	29	60

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	6	129	135
Production	2	56	58
Net annual change	4	73	77
Proved reserves	17	866	883

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	11,620	47,044	35.19
Gas	27,094	129,639	53.94
Dry	10,863	26,303	20.54
Total	49,578	57,051	36.41

Number of producing stripper wells 17,992
Number of stripper well abandonments 516

Stripper well crude oil production:
(bbls.) 5,514,287
(b/d) 15,108
Percentage of oil produced by stripper wells 85%

Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 9,794
Secondary 20,576
Total 30,370

Percentage of total value of principal mineral production:
Crude oil — ranked 4th 2%
Natural gas — ranked 2nd 3%

State Energy Contact

Kentucky Department of Mines and Minerals
Oil and Gas Division
P.O. Box 690
Lexington, KY 40586
(606) 257-3812

LOUISIANA

☐ Parishes with oil and/or gas production

Background Information

Number of parishes	64
With oil and/or gas production	62
First year of production:	
Crude oil	1902
Natural gas	1905
Year and amount of peak production:	
Crude oil — 935,243 thous. bbls.	1971
Natural gas — 8,242,423 MMcf	1973
Deepest well drilled: (ft.)	
Crude oil	22,856
Natural gas	21,862
Dry hole	26,500

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	84,085	46%
Gas wells	31,267	17%
Dry holes	68,944	37%
Total	184,296	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $174,643,303

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	25,595	3,727	29,322	231,953
Production	23,129	2,637	25,766	192,687

Value of Oil and Gas

Average 1987 wellhead price:	
Crude oil ($/bbl.)	$17.97
Natural gas ($/Mcf)	$1.61
Wellhead value of 1987 production: (thous. $)	
Crude oil	$8,725,208
Natural gas	$8,205,154
Total	$16,930,362

Average 1987 natural gas price to: ($/Mcf)

Residential consumers	$5.63
Commercial consumers	$5.00
Industrial consumers	$1.79
Electric utilities	$1.67
All consumers	$2.04

Severance taxes paid in 1987 (thous. $) $439,237

Compiled by IPAA–September 1988

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	22	875	897
Gas	39	434	473
Dry	291	617	908
Service	- -	0	0
Total	352	1,926	2,278

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	195.0	4,700.8	4,895.8
Gas	347.1	2,996.9	3,344.0
Dry	2,500.4	4,750.8	7,251.3
Service	- -	0.0	0.0
Total	3,042.5	12,448.5	15,491.1

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 297
New-field wildcat footage (thous. ft.) 2,544.2

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	6th	5th
Production	3rd	2nd
Reserves (1986)	6th	4th

Seismic crew months worked 91
Average rotary rigs active 135

Number of producing wells: (12/31/87)
Crude oil 29,758
Flowing 2,356
Artificial lift 27,402
Natural gas 16,647
Total 46,405

Average production:	thous. bbls.	thous. b/d
Crude oil	485,543	1,330
NGL	52,925	145
Total	538,468	1,475

Natural gas marketed production (MMcf) 5,096,369
Average output per producing well:
Crude oil (bbls.) 16,316
Natural gas (Mcf) 306,143

Average number of employees in:
Oil and gas extraction 51,600
Refining 12,000
Transportation 7,200
Wholesale 5,300
Retail 7,600
Total petroleum industry 83,700

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	273	73	346
Production	449	139	588
Net annual change	-176	-66	-242
Proved reserves	2,466	1,090	3,556

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	452	2,523	2,975
Production	885	3,909	4,794
Net annual change	-433	-1,386	-1,819
Proved reserves	7,234	32,032	39,266

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	870,696	771,893	153.75
Gas	782,672	1,444,044	187.56
Dry	1,276,839	1,200,037	147.01
Total	2,930,207	1,071,765	158.20

Number of producing stripper wells 15,500
Number of stripper well abandonments 1,326

Stripper well crude oil production:
(bbls.) 10,059,344
(b/d) 27,560
Percentage of oil produced by stripper wells 7%

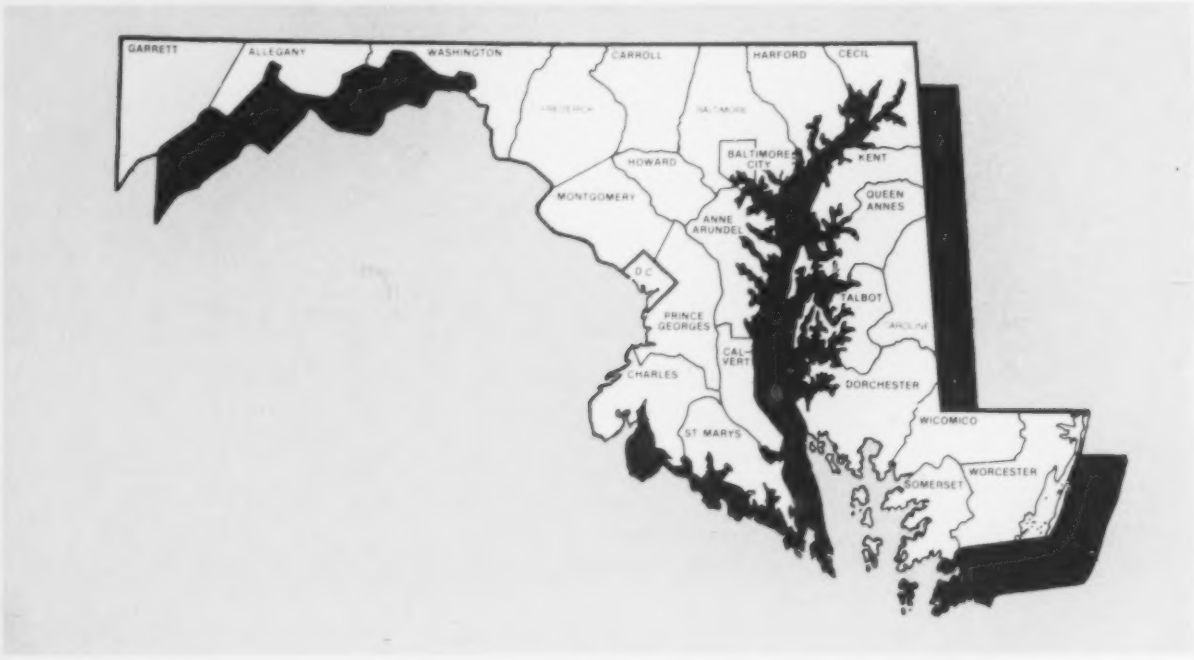
Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 61,075
Secondary 58,675
Total 119,750

Percentage of total value of principal mineral production:
Crude oil — ranked 2nd 41%
Natural gas — ranked 1st 56%

State Energy Contact

Louisiana Department of Natural Resources
P.O. Box 44396
Capitol Station
Baton Rouge, LA 70804
(504) 342-4500

MARYLAND



☐ Counties with oil and/or gas production

Background Information

Number of counties 23
With oil and or gas production 1

First year of production:
Crude oil ..... Not Applicable
Natural gas 1951

Year and amount of peak production
Crude oil ..... Not Applicable
Natural gas — 4,543 MMcf 1959

Deepest well drilled: (ft.)
Crude oil ..... Not Applicable
Natural gas 8,675
Dry hole 11,617

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	0	0%
Gas wells	72	60%
Dry holes	48	40%
Total	120	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) ..... Not Applicable

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	0	0	0	N/A
Production	0	0	0	N/A

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) ..... Not Applicable
Natural gas ($/Mcf) $0.55

Wellhead value of 1987 production: (thous. $)
Crude oil ..... $ 0
Natural gas $14
Total $14

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $6.25
Commercial consumers $4.56
Industrial consumers $4.79
Electric utilities $2.80
All consumers $5.25

Severance taxes paid in 1987 (thous. $) $2

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	0	0	0
Gas	0	0	0
Dry	1	0	1
Service	- -	0	0
Total	1	0	1

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	0.0	0.0	0.0
Gas	0.0	0.0	0.0
Dry	5.3	0.0	5.3
Service	- -	0.0	0.0
Total	5.3	0.0	5.3

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 1
New-field wildcat footage (thous. ft.) 5.3

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	- -	N/A
Production	- -	31st
Reserves (1986)	- -	N/A

Seismic crew months worked ..... N/A
Average rotary rigs active 0

Number of producing wells: (12/31/87)
Crude oil 0
Flowing 0
Artificial lift 0
Natural gas ..... N/A
Total 0

Average production:	thous. bbls.	thous. b/d
Crude oil	0	- -
NGL	0	- -
Total	0	- -

Natural gas marketed production (MMcf) 25
Average output per producing well:
Crude oil (bbls.) 0
Natural gas (Mcf) 0

Average number of employees in:
Oil and gas extraction 35
Refining 0
Transportation 0
Wholesale 2,675
Retail 13,450
Total petroleum industry 16,160

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	0	0	0
Production	0	0	0
Net annual change	0	0	0
Proved reserves	0	0	0

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	- -	- -	N/A
Production	- -	- -	N/A
Net annual change	- -	- -	N/A
Proved reserves	- -	- -	N/A

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	N/A	- -	- -
Gas	N/A	- -	- -
Dry	N/A	- -	- -
Total	N/A	- -	- -

Number of producing stripper wells 0
Number of stripper well abandonments 0

Stripper well crude oil production:
(bbls.) 0
(b/d) 0
Percentage of oil produced by stripper wells 0

Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 0
Secondary 0
Total 0

Percentage of total value of principal mineral production:
Crude oil ..... Not Applicable
Natural gas — ranked 8th ..... Less than 1%

State Energy Contact

Maryland Geological Survey
2300 Saint Paul Street
Baltimore, MD 21218
(301) 554-5500

MICHIGAN

☐ Counties with oil and/or gas production

Background Information

Number of counties 83
With oil and/or gas production 61

First year of production:
Crude oil 1889
Natural gas 1909

Year and amount of peak production:
Crude oil — 34,862 thous. bbls. 1979
Natural gas — 159,731 MMcf 1979

Deepest well drilled: (ft.)
Crude oil 10,515
Natural gas 11,635
Dry hole 17,466

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	14,207	39%
Gas wells	2,911	8%
Dry holes	19,411	53%
Total	36,529	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $10,122,521

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	1,157	213	1,370	2,424
Production	1,011	125	1,136	1,182

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $17.63
Natural gas ($/Mcf) $3.20

Wellhead value of 1987 production: (thous. $)
Crude oil $457,886
Natural gas $517,213
Total $975,099

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $5.46
Commercial consumers $5.14
Industrial consumers $4.27
Electric utilities $1.22
All consumers $5.12

Severance taxes paid in 1987 (thous. $) $48,250

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	16	78	94
Gas	32	88	120
Dry	224	80	304
Service	- -	10	10
Total	272	256	528

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	75.3	270.8	346.1
Gas	195.1	266.6	461.7
Dry	1,049.0	333.7	1,382.8
Service	- -	22.1	22.1
Total	1,319.4	893.2	2,212.6

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 240
New-field wildcat footage (thous. ft.) 1,083.1

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	15th	13th
Production	13th	12th
Reserves (1986)	14th	16th

Seismic crew months worked 296
Average rotary rigs active 22

Number of producing wells: (12/31/87)
Crude oil 4,996
Flowing 652
Artificial lift 4,344
Natural gas 670
Total 5,666

Average production:	thous. bbls.	thous. b/d
Crude oil	25,972	71
NGL	4,380	12
Total	30,352	83

Natural gas marketed production (MMcf) 161,629
Average output per producing well:
Crude oil (bbls.) 5,199
Natural gas (Mcf) 241,237

Average number of employees in:
Oil and gas extraction 4,216
Refining 2,396
Transportation 7,090
Wholesale 5,829
Retail 23,367
Total petroleum industry 42,898

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	-21	31	10
Production	24	10	34
Net annual change	-45	21	-24
Proved reserves	146	88	234

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	-42	358	316
Production	70	68	138
Net annual change	-112	290	178
Proved reserves	577	665	1,242

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	32,204	277,620	63.65
Gas	39,481	564,008	110.03
Dry	88,693	294,660	56.45
Total	160,377	329,316	65.93

Number of producing stripper wells 3,285
Number of stripper well abandonments 127

Stripper well crude oil production:
(bbls.) 2,781,738
(b/d) 7,621
Percentage of oil produced by stripper wells 8%

Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 22,945
Secondary 26,935
Total 49,880

Percentage of total value of principal mineral production:
Crude oil — ranked 2nd 18%
Natural gas — ranked 1st 22%

State Energy Contact

Michigan Geological Survey
Department of Natural Resources
P.O. Box 30028
Lansing, MI 48909
(517) 334-6907

MISSISSIPPI

☐ Counties with oil and/or gas production

Background Information

Number of counties 82
With oil and/or gas production 45

First year of production:
Crude oil 1889
Natural gas 1923

Year and amount of peak production:
Crude oil — 65,119 thous. bbls. 1970
Natural gas — 181,238 MMcf 1981

Deepest well drilled: (ft.)
Crude oil 21,533
Natural gas 21,727
Dry hole 25,500

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	7,556	32%
Gas wells	1,351	6%
Dry holes	14,534	62%
Total	23,441	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $12,226,644

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	2,314	112	2,426	7,980
Production	2,115	101	2,216	6,676

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $16.78
Natural gas ($/Mcf) $1.97

Wellhead value of 1987 production: (thous. $)
Crude oil $471,568
Natural gas $271,643
Total $743,211

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $6.32
Commercial consumers $5.47
Industrial consumers $2.27
Electric utilities $1.86
All consumers $2.99

Severance taxes paid in 1987 (thous. $) $49,774

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	16	78	94
Gas	9	27	36
Dry	91	94	185
Service	- -	0	0
Total	116	199	315

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	176.8	714.7	891.5
Gas	73.7	255.0	328.7
Dry	704.7	711.8	1,416.5
Service	- -	0.0	0.0
Total	955.2	1,681.5	2,636.7

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 104
New-field wildcat footage (thous. ft.) 835.4

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	15th	19th
Production	12th	13th
Reserves (1986)	13th	15th

Seismic crew months worked 14
Average rotary rigs active 13

Number of producing wells: (12/31/87)
Crude oil 2,143
Flowing 188
Artificial lift 1,955
Natural gas 749
Total 2,892

Average production:	thous. bbls.	thous. b/d
Crude oil	28,103	77
NGL	730	2
Total	28,833	79

Natural gas marketed production (MMcf) 137,890
Average output per producing well:
Crude oil (bbls.) 13,114
Natural gas (Mcf) 184,099

Average number of employees in:
Oil and gas extraction 5,359
Refining 1,646
Transportation 2,124
Wholesale 2,964
Retail 5,905
Total petroleum industry 17,998

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	45	0	45
Production	30	1	31
Net annual change	15	-1	14
Proved reserves	199	11	210

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	-25	130	105
Production	14	151	165
Net annual change	-39	-21	-60
Proved reserves	66	1,238	1,304

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	45,007	548,864	62.12
Gas	60,257	1,721,623	157.08
Dry	81,732	441,796	51.21
Total	186,996	619,192	69.15

Number of producing stripper wells 681
Number of stripper well abandonments 103

Stripper well crude oil production:
(bbls.) 1,121,028
(b/d) 3,071
Percentage of oil produced by stripper wells 4%

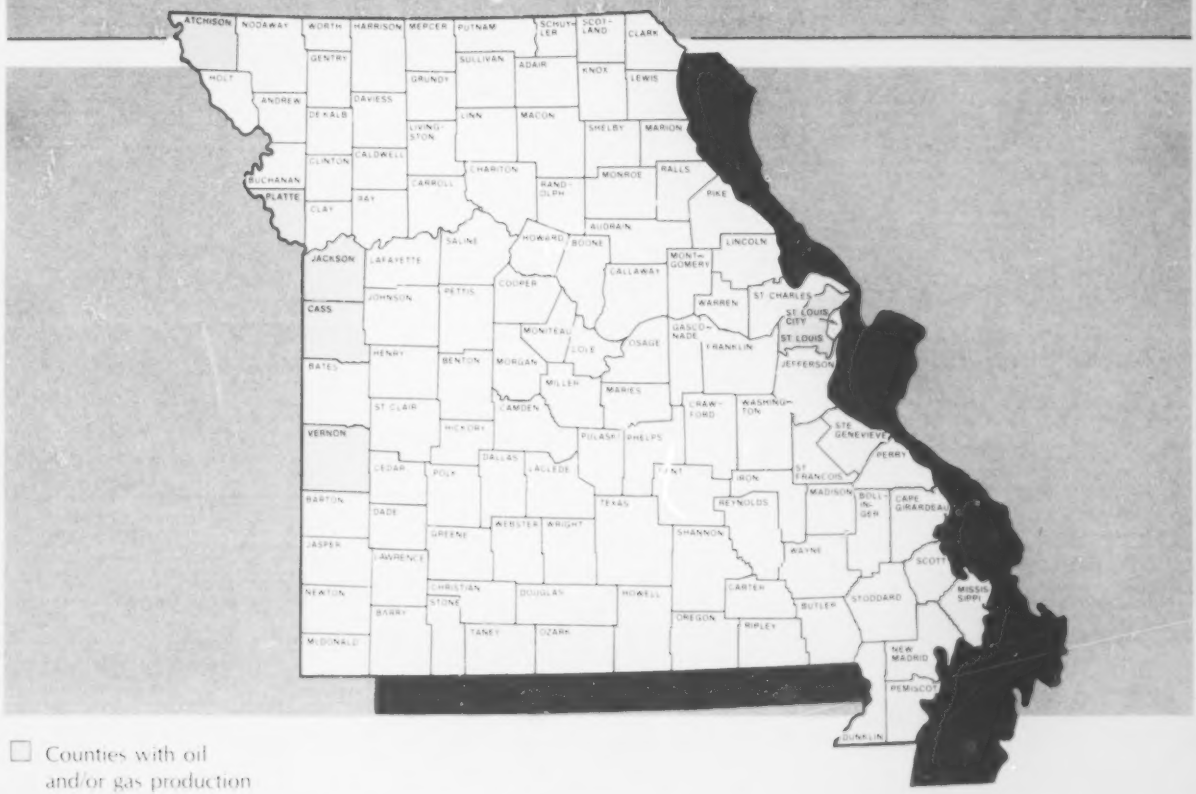
Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 12,710
Secondary 2,790
Total 15,500

Percentage of total value of principal mineral production:
Crude oil — ranked 1st 50%
Natural gas — ranked 2nd 37%

State Energy Contact

Mississippi State Oil and Gas Board
P.O. Box 1332
Jackson, MS 39215
(601) 359-3725

MISSOURI



☐ Counties with oil and/or gas production

Background Information

Number of counties 114
With oil and/or gas production 6

First year of production:
Crude oil 1888
Natural gas 1887

Year and amount of peak production:
Crude oil — 285 thous. bbls. 1984
Natural gas — 1,369 MMcf 1938

Deepest well drilled. (ft.)
Crude oil 2,975
Natural gas 765
Dry hole 4,906

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	693	36%
Gas wells	187	10%
Dry holes	1,066	54%
Total	1,946	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $57,522

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	N/A	0	0	N/A
Production	N/A	0	0	N/A

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $17.25
Natural gas ($/Mcf) $3.75

Wellhead value of 1987 production: (thous. $)
Crude oil $1,898
Natural gas $19
Total $1,916

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $4.63
Commercial consumers $4.02
Industrial consumers $3.69
Electric utilities $2.83
All consumers $4.25

Severance taxes paid in 1987 ..... Not Applicable

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	2	10	12
Gas	0	0	0
Dry	4	2	6
Service	- -	0	0
Total	6	12	18

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	6.5	13.0	19.5
Gas	0.0	0.0	0.0
Dry	5.4	0.7	6.1
Service	- -	0.0	0.0
Total	11.9	13.7	25.6

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 5
New-field wildcat footage (thous. ft.) 8.2

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	24th	N/A
Production	30th	32nd
Reserves (1986)	N/A	N/A

Seismic crew months worked 4
Average rotary rigs active 0

Number of producing wells: (12/31/87)
Crude oil 200
Flowing 0
Artificial lift 200
Natural gas 0
Total 200

Average production:	thous. bbls.	thous. b/d
Crude oil	110	- -
NGL	0	- -
Total	110	- -

Natural gas marketed production (MMcf) 5
Average output per producing well:
Crude oil (bbls.) 550
Natural gas (Mcf) ..... N/A

Average number of employees in:
Oil and gas extraction 63
Refining 422
Transportation 5,097
Wholesale 6,020
Retail 19,056
Total petroleum industry 30,658

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	N/A	0	0
Production	N/A	0	0
Net annual change	N/A	0	0
Proved reserves	N/A	0	0

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	- -	- -	N/A
Production	- -	- -	N/A
Net annual change	- -	- -	N/A
Proved reserves	- -	- -	N/A

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	N/A	- -	- -
Gas	N/A	- -	- -
Dry	N/A	- -	- -
Total	N/A	- -	- -

Number of producing stripper wells 388
Number of stripper well abandonments 34

Stripper well crude oil production:
(bbls.) 182,309
(b/d) 499
Percentage of oil produced by stripper wells 100%

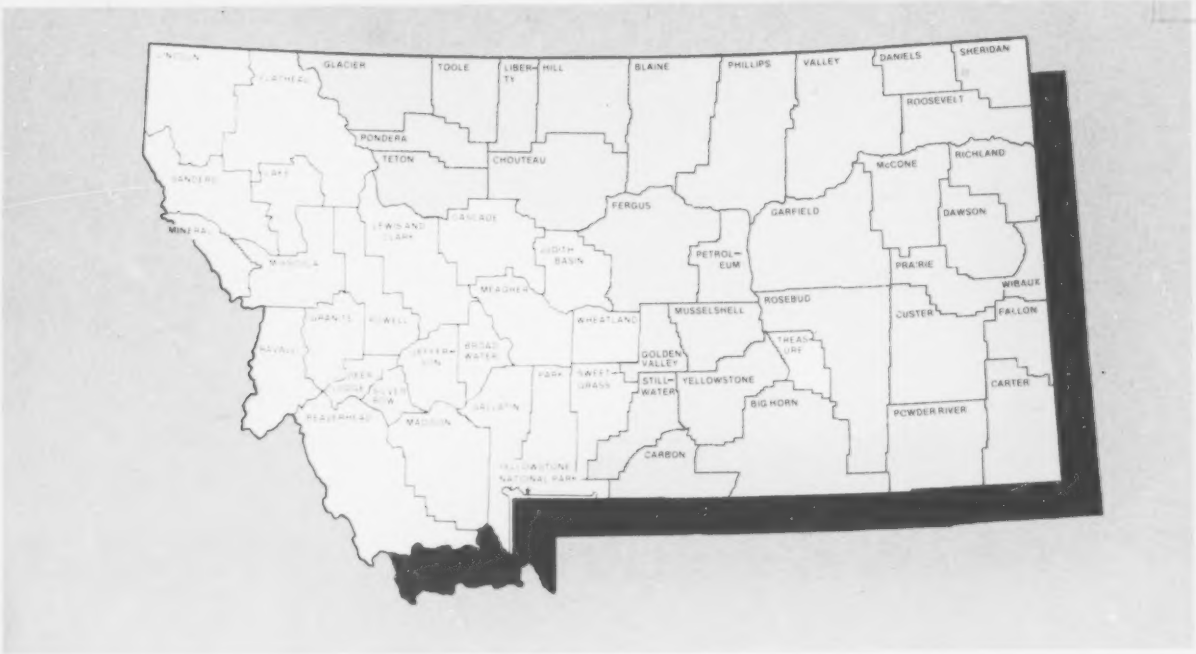
Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 1,705
Secondary 1,395
Total 3,100

Percentage of total value of principal mineral production:
Crude oil — ranked 11th ..... Less than 1%
Natural gas — ranked 12th ..... Less than 1%

State Energy Contact

Missouri Department of Economic Development
Oil and Gas Research Division
P.O. Box 118
Jefferson City, MO 65101
(314) 751-3674

MONTANA



☐ Counties with oil and/or gas production

Background Information

Number of counties 56
With oil and/or gas production 32

First year of production:
Crude oil 1916
Natural gas 1915

Year and amount of peak production:
Crude oil — 48,460 thous. bbls. 1968
Natural gas — 56,565 MMcf 1981

Deepest well drilled: (ft.)
Crude oil 13,012
Natural gas 5,800
Dry hole 17,774

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	10,568	37%
Gas wells	4,256	15%
Dry holes	13,807	48%
Total	28,631	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $9,818,375

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	1,471	47	1,518	2,956
Production	1,223	31	1,254	2,133

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $16.57
Natural gas ($/Mcf) $1.80

Wellhead value of 1987 production: (thous. $)
Crude oil $415,228
Natural gas $83,394
Total $498,622

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $4.43
Commercial consumers $4.38
Industrial consumers $3.41
Electric utilities $1.10
All consumers $4.16

Severance taxes paid in 1987 (thous. $) $84,054

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	11	85	96
Gas	8	61	69
Dry	79	41	120
Service	- -	11	11
Total	98	198	296

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	105.5	435.2	540.8
Gas	13.1	93.8	106.9
Dry	391.4	167.8	559.2
Service	- -	34.2	34.2
Total	510.0	731.0	1,241.0

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 75
New-field wildcat footage (thous. ft.) 397.6

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	14th	14th
Production	14th	20th
Reserves (1986)	10th	19th

Seismic crew months worked 28
Average rotary rigs active 9

Number of producing wells: (12/31/87)
Crude oil 4,050
Flowing 364
Artificial lift 3,686
Natural gas 2,100
Total 6,150

Average production:	thous. bbls.	thous. b/d
Crude oil	25,059	69
NGL	730	2
Total	25,789	71

Natural gas marketed production (MMcf) 46,330
Average output per producing well:
Crude oil (bbls.) 6,187
Natural gas (Mcf) 22,062

Average number of employees in:
Oil and gas extraction 2,010
Refining 766
Transportation 367
Wholesale 1,262
Retail 3,144
Total petroleum industry 7,549

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	43	-4	39
Production	27	1	28
Net annual change	16	-5	11
Proved reserves	248	16	264

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	18	-37	-19
Production	11	31	42
Net annual change	7	-68	-61
Proved reserves	98	725	823

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	34,603	443,634	72.58
Gas	5,503	59,819	36.37
Dry	47,524	266,987	65.22
Total	87,630	251,812	64.59

Number of producing stripper wells 3,493
Number of stripper well abandonments 75

Stripper well crude oil production:
(bbls.) 2,709,234
(b/d) 7,423
Percentage of oil produced by stripper wells 10%

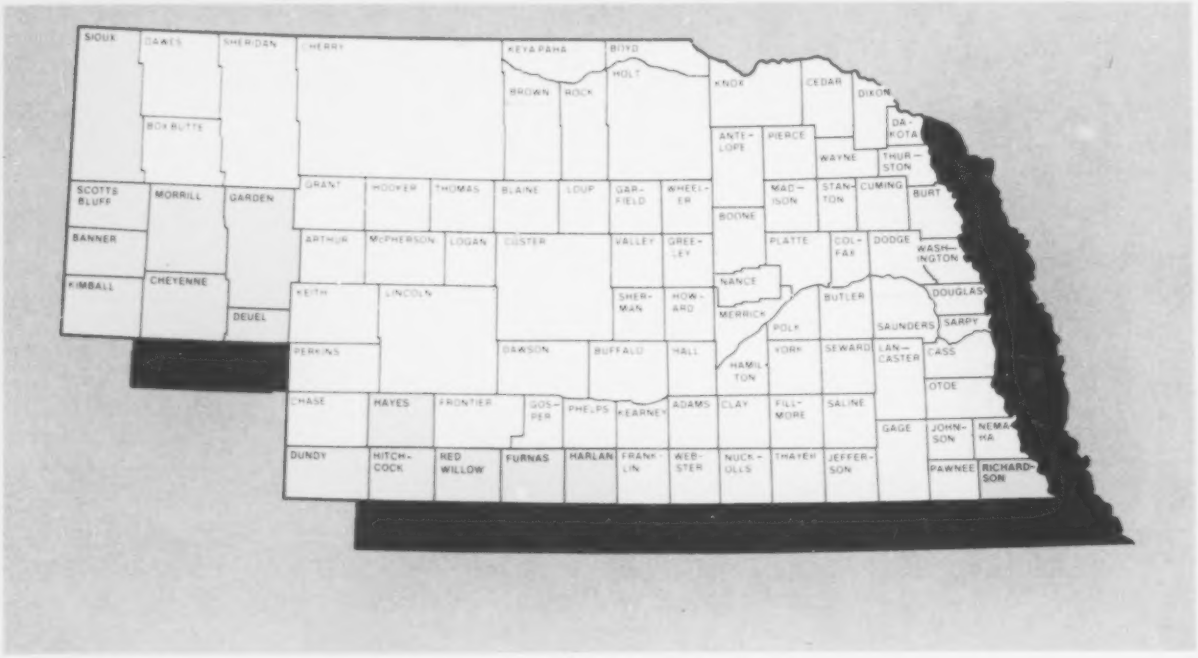
Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 27,150
Secondary 3,350
Total 30,500

Percentage of total value of principal mineral production:
Crude oil — ranked 2nd 32%
Natural gas — ranked 3rd 8%

State Energy Contact

Montana Department of Natural Resources
Board of Oil and Gas
1520 East Sixth Avenue
Helena, MT 59620
(406) 444-6675

NEBRASKA



☐ Counties with oil and/or gas production

Background Information

Number of counties 93
With oil and/or gas production 15

First year of production:
Crude oil 1939
Natural gas 1949

Year and amount of peak production:
Crude oil — 24,894 thous. bbls. 1962
Natural gas — 15,743 MMcf 1961

Deepest well drilled: (ft.)
Crude oil 8,457
Natural gas 5,832
Dry hole 9,971

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	5,283	31%
Gas wells	214	1%
Dry holes	11,759	68%
Total	17,256	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $2,782,371

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	477	N/A	477	N/A
Production	432	N/A	432	N/A

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $17.07
Natural gas ($/Mcf) $2.42

Wellhead value of 1987 production: (thous. $)
Crude oil $103,973
Natural gas $4,598
Total $108,571

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $4.40
Commercial consumers $3.72
Industrial consumers $2.84
Electric utilities $2.51
All consumers $3.84

Severance taxes paid in 1987 (thous. $) $2,625

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	10	39	49
Gas	1	0	1
Dry	112	23	135
Service	- -	10	10
Total	123	72	195

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	60.6	192.1	252.6
Gas	3.6	0.0	3.6
Dry	645.6	191.6	765.2
Service	- -	41.6	41.6
Total	709.7	353.3	1,063.0

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 94
New-field wildcat footage (thous. ft.) 518.2

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	20th	27th
Production	20th	28th
Reserves (1986)	20th	N/A

Seismic crew months worked 10
Average rotary rigs active 5

Number of producing wells: (12/31/87)
Crude oil 1,852
Flowing 0
Artificial lift 1,852
Natural gas ..... N/A
Total 1,852

Average production:	thous. bbls.	thous. b/d
Crude oil	6,091	17
NGL	N/A	N/A
Total	6,091	17

Natural gas marketed production (MMcf) 1,900
Average output per producing well:
Crude oil (bbls.) 3,289
Natural gas (Mcf) ..... N/A

Average number of employees in:
Oil and gas extraction 592
Refining 0
Transportation 2,348
Wholesale 1,895
Retail 6,683
Total petroleum industry 11,518

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	10	N/A	10
Production	7	N/A	7
Net annual change	3	N/A	3
Proved reserves	45	N/A	45

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	- -	- -	N/A
Production	- -	- -	N/A
Net annual change	- -	- -	N/A
Proved reserves	- -	- -	N/A

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	12,583	299,587	55.88
Gas	80	80,388	21.33
Dry	9,827	98,274	18.02
Total	22,490	157,276	29.05

Number of producing stripper wells 1,637
Number of stripper well abandonments 45

Stripper well crude oil production:
(bbls.) 2,617,159
(b/d) 7,170
Percentage of oil produced by stripper wells 37%

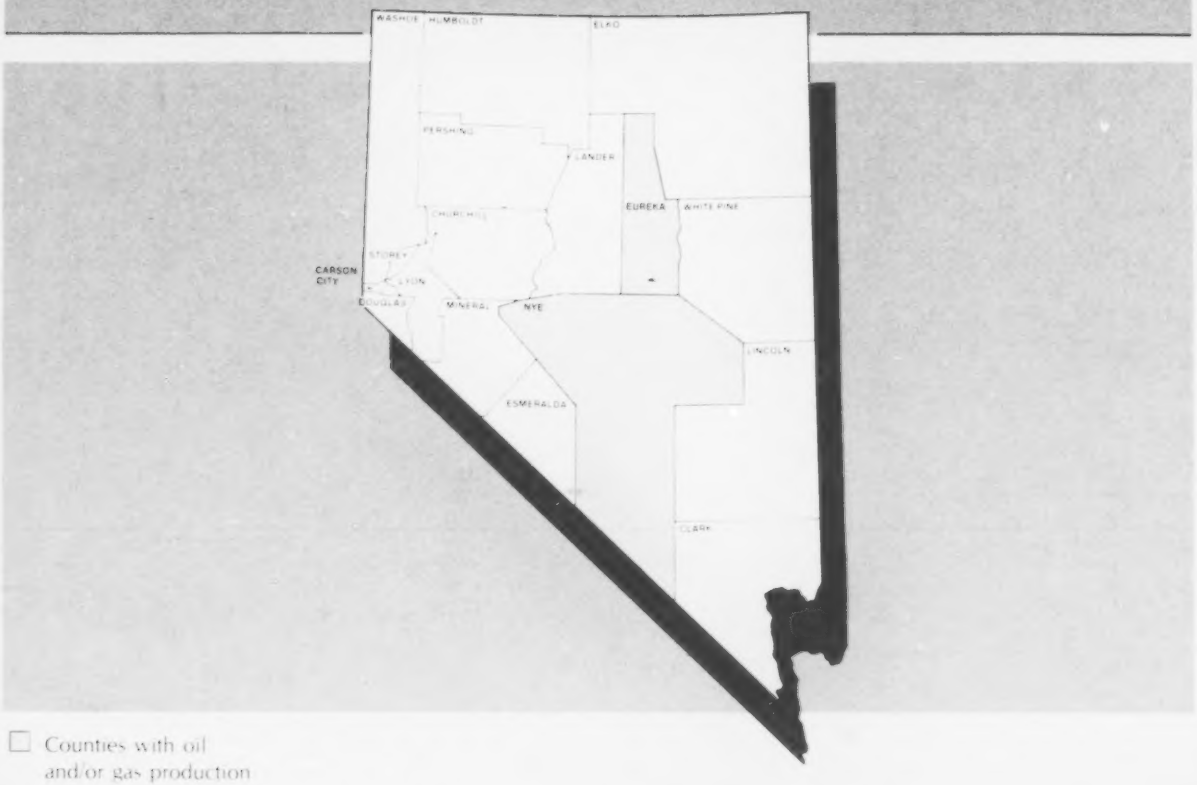
Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 21,846
Secondary 3,811
Total 25,657

Percentage of total value of principal mineral production:
Crude oil — ranked 1st 50%
Natural gas — ranked 4th 2%

State Energy Contact

Nebraska Oil & Gas Conservation Commission
P.O. Box 399
Sidney, NE 69162
(308) 254-4595

NEVADA



☐ Counties with oil and/or gas production

Background Information

Number of counties 16
With oil and or gas production 2

First year of production:
Crude oil 1954
Natural gas ..... Not Applicable

Year and amount of peak production:
Crude oil — 3,112 thous. bbls. 1987
Natural gas ..... Not Applicable

Deepest well drilled: (ft.)
Crude oil 8,694
Natural gas ..... Not Applicable
Dry hole 19,562

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	50	13%
Gas wells	1	0%
Dry holes	331	87%
Total	382	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $340,378

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	N/A	0	0	0
Production	N/A	0	0	0

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $11.50
Natural gas ($/Mcf) ..... Not Applicable

Wellhead value of 1987 production: (thous. $)
Crude oil $35,788
Natural gas ..... $ 0
Total $35,788

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $5.29
Commercial consumers $4.22
Industrial consumers $3.80
Electric utilities $2.65
All consumers $4.33

Severance taxes paid in 1987 (thous. $) $160

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	1	1	2
Gas	0	0	0
Dry	12	1	13
Service	- -	0	0
Total	13	2	15

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	4.7	3.9	8.6
Gas	0.0	0.0	0.0
Dry	80.1	7.4	87.5
Service	- -	0.0	0.0
Total	84.8	11.3	96.1

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 11
New-field wildcat footage (thous. ft.) 72.6

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	26th	- -
Production	24th	- -
Reserves (1986)	N/A	- -

Seismic crew months worked 6
Average rotary rigs active 1

Number of producing wells: (12/31/87)
Crude oil 35
Flowing 3
Artificial lift 32
Natural gas 0
Total 70

Average production:	thous. bbls.	thous. b/d
Crude oil	3,112	9
NGL	0	0
Total	3,112	9

Natural gas marketed production (MMcf) ..... N/A
Average output per producing well:
Crude oil (bbls.) 88,914
Natural gas (Mcf) ..... N/A

Average number of employees in:
Oil and gas extraction 222
Refining 26
Transportation 764
Wholesale 453
Retail 3,831
Total petroleum industry 5,296

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	N/A	0	0
Production	N/A	0	0
Net annual change	N/A	0	0
Proved reserves	N/A	0	0

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	- -	- -	0
Production	- -	- -	0
Net annual change	- -	- -	0
Proved reserves	- -	- -	0

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	N/A	- -	- -
Gas	N/A	- -	- -
Dry	N/A	- -	- -
Total	N/A	- -	- -

Number of producing stripper wells 0
Number of stripper well abandonments 0

Stripper well crude oil production:
(bbls.) 0
(b/d) 0
Percentage of oil produced by stripper wells 0

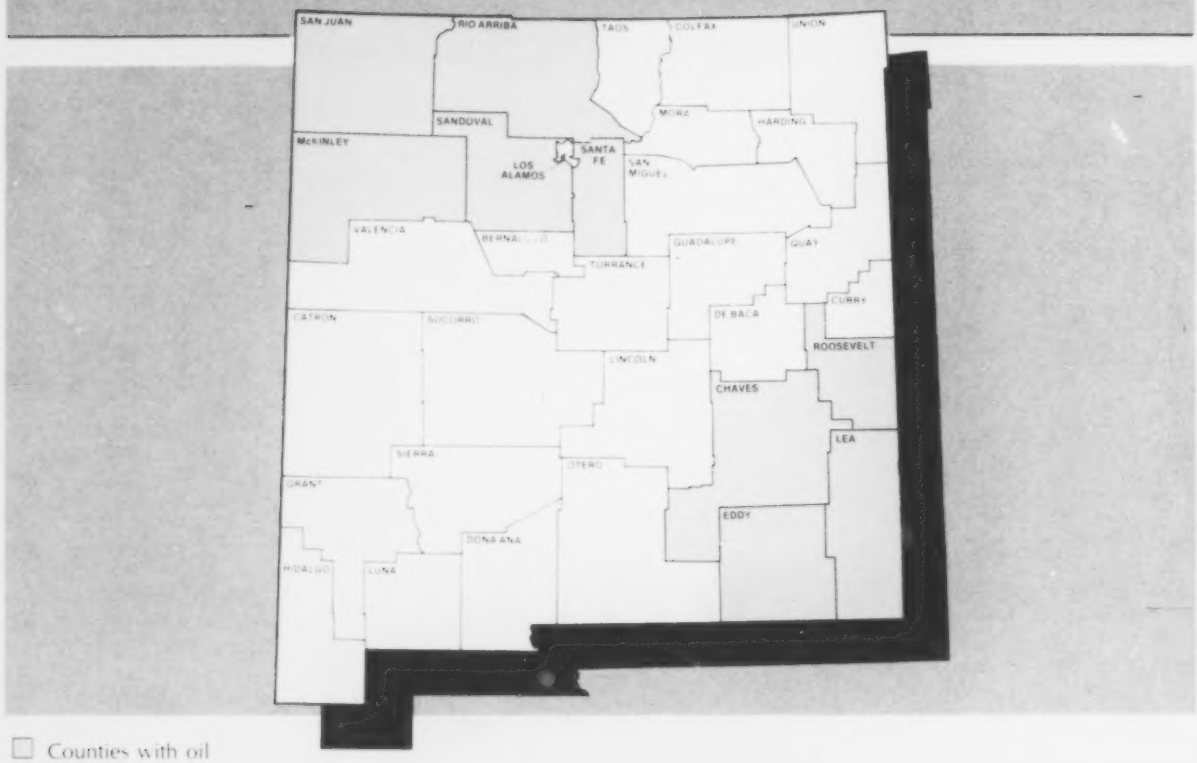
Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 0
Secondary 0
Total 0

Percentage of total value of principal mineral production:
Crude oil — ranked 4th 3%
Natural gas ..... Not Applicable

State Energy Contact

Nevada Department of Minerals
400 West King Street
Suite 106
Carson City, NV 89710
(702) 885-5050

NEW MEXICO



☐ Counties with oil and/or gas production

Background Information

Number of counties 32
With oil and/or gas production 9

First year of production:
- Crude oil 1911
Natural gas 1924

Year and amount of peak production:
Crude oil — 129,227 thous. bbls. 1969
Natural gas — 1,244,779 MMcf 1974

Deepest well drilled: (ft.)
Crude oil 17,652
Natural gas 17,544
Dry hole 22,926

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	30,242	50%
Gas wells	17,895	29%
Dry holes	12,757	21%
Total	60,894	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $27,063,843

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	5,895	1,806	7,701	50,356
Production	5,251	1,229	6,480	37,816

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $17.58
Natural gas ($/Mcf) $1.67

Wellhead value of 1987 production: (thous. $)
Crude oil $1,271,526
Natural gas $1,366,817
Total $2,638,343

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $5.02
Commercial consumers $3.52
Industrial consumers $2.55
Electric utilities $2.42
All consumers $3.80

Severance taxes paid in 1987 (thous. $) $262,290

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	54	339	393
Gas	32	194	226
Dry	67	84	151
Service	- -	14	14
Total	153	631	784

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	430.5	2,065.8	2,496.3
Gas	178.1	1,091.1	1,269.2
Dry	400.5	542.7	943.2
Service	- -	49.2	49.2
Total	1,009.1	3,748.8	4,757.9

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 50
New-field wildcat footage (thous. ft.) 295.1

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	8th	10th
Production	7th	4th
Reserves (1986)	7th	5th

Seismic crew months worked 46
Average rotary rigs active 35

Number of producing wells: (12/31/87)
Crude oil 18,401
Flowing 3,460
Artificial lift 14,941
Natural gas 23,413
Total 41,814

Average production:	thous. bbls.	thous. b/d
Crude oil	72,328	198
NGL	14,600	40
Total	86,928	238

Natural gas marketed production (MMcf) 818,453
Average output per producing well:
Crude oil (bbls.) 3,931
Natural gas (Mcf) 34,957

Average number of employees in:
Oil and gas extraction 8,893
Refining 679
Transportation 3,438
Wholesale 2,195
Retail 4,053
Total petroleum industry 19,258

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	29	169	198
Production	73	37	110
Net annual change	-44	132	88
Proved reserves	644	577	1,221

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	134	1,645	1,779
Production	178	499	677
Net annual change	-44	1,146	1,102
Proved reserves	1,446	11,094	12,540

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	196,339	399,876	61.87
Gas	96,940	405,608	61.91
Dry	56,612	312,772	54.58
Total	349,891	384,074	60.57

Number of producing stripper wells 14,466
Number of stripper well abandonments 1,761

Stripper well crude oil production:
(bbls.) 14,747,491
(b/d) 40,404
Percentage of oil produced by stripper wells 20%

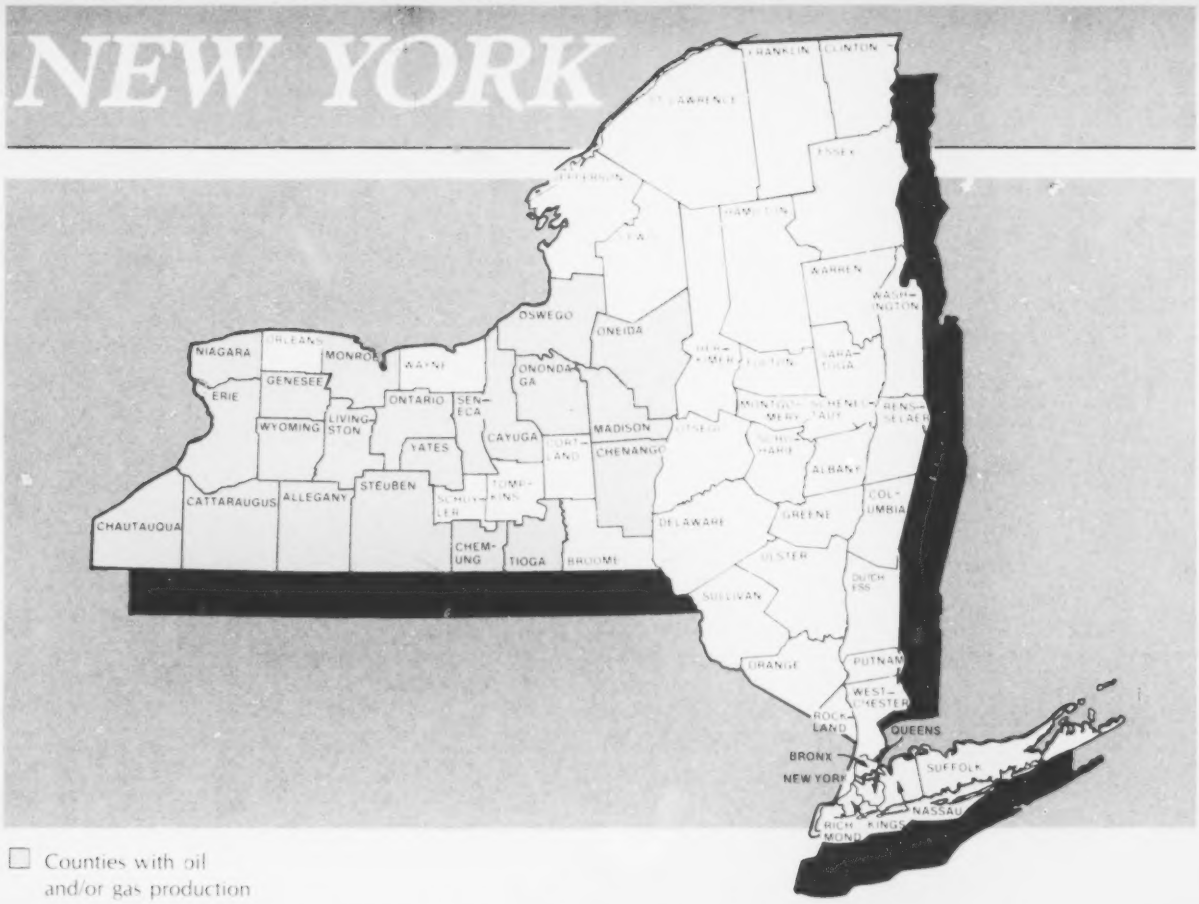
Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 65,145
Secondary 30,655
Total 95,800

Percentage of total value of principal mineral production:
Crude oil — ranked 2nd 32%
Natural gas — ranked 1st 37%

State Energy Contact

New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504
(505) 827-5800

NEW YORK



☐ Counties with oil and/or gas production

Background Information

Number of counties 62
With oil and/or gas production 22

First year of production:
Crude oil 1865
Natural gas 1885

Year and amount of peak production:
Crude oil — 6,685 thous. bbls. 1882
Natural gas — 39,402 MMcf 1938

Deepest well drilled: (ft.)
Crude oil 4,634
Natural gas 5,425
Dry hole 13,500

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	9,310	62%
Gas wells	4,765	31%
Dry holes	1,086	7%
Total	15,161	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $1,018,894

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	N/A	N/A	- -	1,138
Production	N/A	N/A	- -	681

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $17.40
Natural gas ($/Mcf) $2.00

Wellhead value of 1987 production: (thous. $)
Crude oil $12,354
Natural gas $72,400
Total $84,754

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $6.89
Commercial consumers $5.48
Industrial consumers $4.60
Electric utilities $2.50
All consumers $5.38

Severance taxes paid in 1987 ..... Not Applicable

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	0	3	3
Gas	3	181	184
Dry	2	9	11
Service	- -	0	0
Total	5	193	198

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	0.0	4.7	4.7
Gas	8.0	434.6	442.6
Dry	6.7	22.6	29.3
Service	- -	0.0	0.0
Total	14.7	461.9	476.7

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 3
New-field wildcat footage (thous. ft.) 12.2

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	25th	11th
Production	27th	21st
Reserves (1986)	N/A	21st

Seismic crew months worked ..... N/A
Average rotary rigs active 2

Number of producing wells: (12/31/87)
Crude oil 4,428
Flowing 10
Artificial lift 4,418
Natural gas 5,180
Total 9,608

Average production:	thous. bbls.	thous. b/d
Crude oil	710	2
NGL	N/A	N/A
Total	710	2

Natural gas marketed production (MMcf) 36,200
Average output per producing well:
Crude oil (bbls.) 160
Natural gas (Mcf) 6,988

Average number of employees in:
Oil and gas extraction 1,785
Refining 6,080
Transportation 6,840
Wholesale 8,845
Retail 28,076
Total petroleum industry 51,626

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	- - -	- - -	N/A
Production	- - -	- - -	N/A
Net annual change	- - -	- - -	N/A
Proved reserves	- - -	- - -	N/A

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	-2	117	115
Production	0	27	27
Net annual change	-2	90	88
Proved reserves	0	457	457

Cost of drilling and equipping wells:

(Appalachia)	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	146,091	102,592	28.44
Gas	277,434	134,939	34.26
Dry	15,708	95,200	30.47
Total	439,233	120,503	31.94

Number of producing stripper wells 4,309
Number of stripper well abandonments 449

Stripper well crude oil production:
(bbls.) 488,925
(b/d) 1,340
Percentage of oil produced by stripper wells 57%

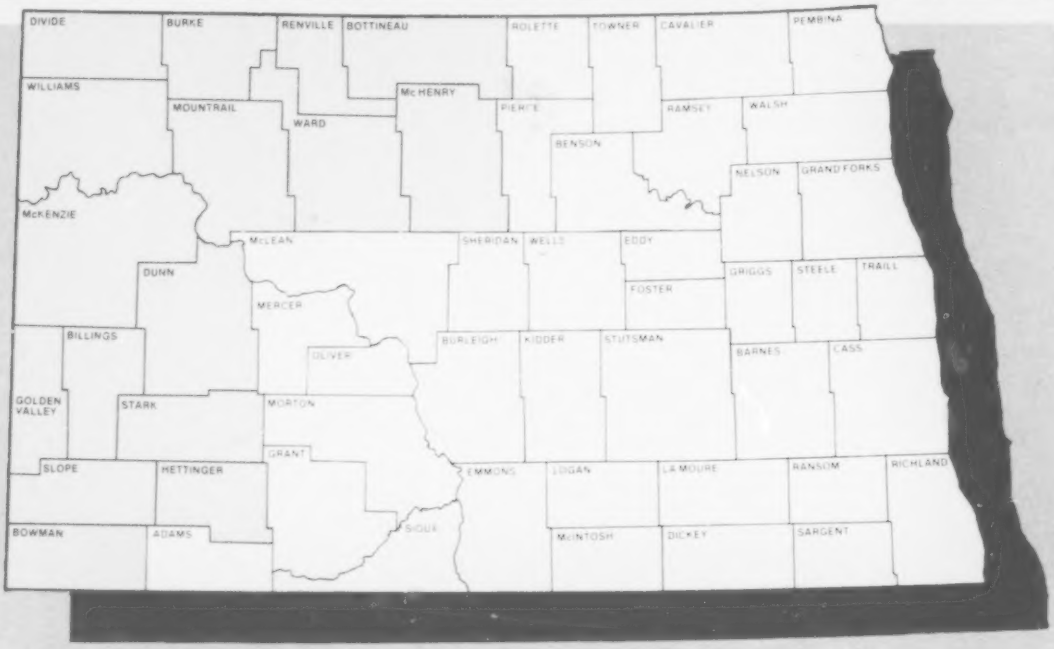
Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 1,030
Secondary 7,283
Total 8,313

Percentage of total value of principal mineral production:
Crude oil — ranked 5th 2%
Natural gas — ranked 4th 3%

State Energy Contact

New York State Department of
Environmental Conservation
50 Wolf Road
Albany, NY 12223
(518) 457-7480

NORTH DAKOTA



☐ Counties with oil and/or gas production

Background Information

Number of counties	53
With oil and/or gas production	16
First year of production:	
Crude oil	1951
Natural gas	1907
Year and amount of peak production:	
Crude oil — 52,652 thous. bbls.	1984
Natural gas — 72,633 MMcf	1985
Deepest well drilled: (ft.)	
Crude oil	15,380
Natural gas	14,636
Dry hole	15,897

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	5,445	50%
Gas wells	95	1%
Dry holes	5,270	49%
Total	10,810	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $12,806,756

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	1,088	166	1,254	1,881
Production	870	97	967	1,271

Value of Oil and Gas

Average 1987 wellhead price:	
Crude oil ($/bbl.)	$16.74
Natural gas ($/Mcf)	$1.30
Wellhead value of 1987 production: (thous. $)	
Crude oil	$692,216
Natural gas	$81,714
Total	$773,930

Average 1987 natural gas price to: ($/Mcf)	
Residential consumers	$5.47
Commercial consumers	$4.78
Industrial consumers	$3.24
Electric utilities	$4.74
All consumers	$4.85
Severance taxes paid in 1987 (thous. $)	$90,665

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	36	63	99
Gas	0	2	2
Dry	61	21	82
Service	- -	0	0
Total	97	86	183

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	383.5	587.1	970.5
Gas	0.0	28.4	28.4
Dry	462.3	174.4	636.7
Service	- -	0.0	0.0
Total	845.8	789.9	1,635.7

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 60
New-field wildcat footage (thous. ft.) 464.3

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	13th	26th
Production	9th	19th
Reserves (1986)	11th	20th

Seismic crew months worked 37
Average rotary rigs active 14

Number of producing wells: (12/31/87)
Crude oil 3,474
Flowing 599
Artificial lift 2,875
Natural gas 103
Total 3,577

Average production:	thous. bbls.	thous. b/d
Crude oil	41,351	113
NGL	2,920	8
Total	44,271	121

Natural gas marketed production (MMcf) 62,857
Average output per producing well:
Crude oil (bbls.) 11,903
Natural gas (Mcf) 610,262

Average number of employees in:
Oil and gas extraction 2,601
Refining 368
Transportation 1,203
Wholesale 2,210
Retail 2,390
Total petroleum industry 8,772

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	5	1	6
Production	42	6	48
Net annual change	-37	-5	-42
Proved reserves	218	69	287

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	9	12	21
Production	47	14	61
Net annual change	-38	-2	-40
Proved reserves	293	317	610

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	80,073	741,420	75.05
Gas	4,352	1,450,698	102.75
Dry	45,090	413,673	49.30
Total	129,516	588,708	63.99

Number of producing stripper wells 1,106
Number of stripper well abandonments 50

Stripper well crude oil production:
(bbls.) 1,692,781
(b/d) 4,638
Percentage of oil produced by stripper wells 4%

Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 34,630
Secondary 27,210
Total 61,840

Percentage of total value of principal mineral production:
Crude oil — ranked 1st 66%
Natural gas — ranked 3rd 8%

State Energy Contact

North Dakota Industrial Commission
Oil and Gas Division
900 East Boulevard
Bismarck, ND 58505
(701) 224-2969

OHIO

☐ Counties with oil and/or gas production

Background Information

Number of counties 88
With oil and/or gas production 68

First year of production:
Crude oil 1860
Natural gas 1884

Year and amount of peak production:
Crude oil — 23,941 thous. bbls. 1896
Natural gas — 191,990 MMcf (est.) 1987

Deepest well drilled: (ft.)
Crude oil 7,805
Natural gas 8,488
Dry hole 11,442

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	78,493	48%
Gas wells	47,942	29%
Dry holes	36,989	23%
Total	163,424	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $5,411,423

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	1,015	8	1,023	7,981
Production	943	8	951	6,561

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $17.42
Natural gas ($/Mcf) $2.56

Wellhead value of 1987 production: (thous. $)
Crude oil $211,705
Natural gas $491,494
Total $703,200

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $5.36
Commercial consumers $4.93
Industrial consumers $4.29
Electric utilities $3.48
All consumers $5.01

Severance taxes paid in 1987 (thous. $) $5,316

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	4	1,036	1,040
Gas	6	396	402
Dry	26	65	91
Service	- -	0	0
Total	36	1,497	1,533

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	9.6	4,107.6	4,117.1
Gas	37.7	1,638.1	1,675.8
Dry	89.0	168.2	257.2
Service	- -	0.0	0.0
Total	136.3	5,913.9	6,050.2

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 9
New-field wildcat footage (thous. ft.) 29.0

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	5th	6th
Production	18th	9th
Reserves (1986)	17th	14th

Seismic crew months worked 12
Average rotary rigs active 20

Number of producing wells: (12/31/87)
Crude oil 30,013
Flowing 387
Artificial lift 29,626
Natural gas 33,369
Total 63,382

Average production:	thous. bbls.	thous. b/d
Crude oil	12,153	33
NGL	N/A	N/A
Total	12,153	33

Natural gas marketed production (MMcf) 191,990
Average output per producing well:
Crude oil (bbls.) 405
Natural gas (Mcf) 5,734

Average number of employees in:
Oil and gas extraction 7,159
Refining 6,121
Transportation 8,057
Wholesale 6,646
Retail 30,253
Total petroleum industry 58,236

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	4	N/A	4
Production	11	N/A	11
Net annual change	-7	N/A	-7
Proved reserves	72	N/A	72

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	62	174	236
Production	102	47	149
Net annual change	-40	127	87
Proved reserves	898	522	1,420

Cost of drilling and equipping wells:

(Appalachia)	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	146,091	102,592	28.44
Gas	277,434	134,939	34.26
Dry	15,708	95,200	30.47
Total	439,233	120,503	31.94

Number of producing stripper wells 28,652
Number of stripper well abandonments 291

Stripper well crude oil production:
(bbls.) 9,766,612
(b/d) 26,758
Percentage of oil produced by stripper wells 73%

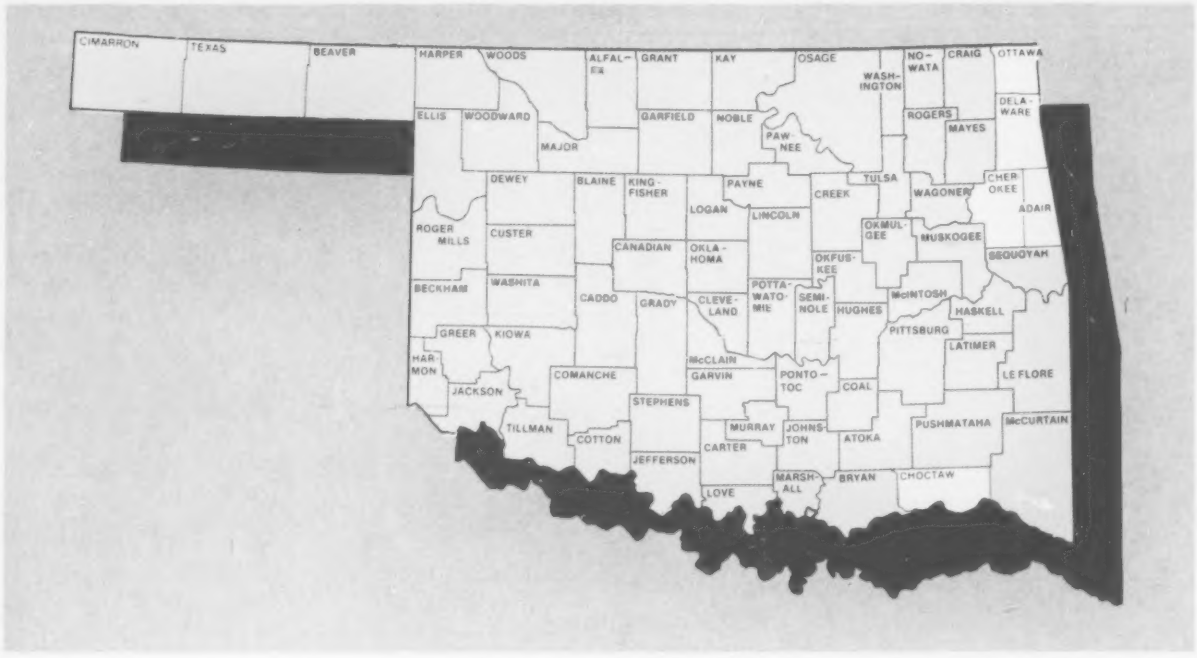
Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 80,751
Secondary 267
Total 81,018

Percentage of total value of principal mineral production:
Crude oil — ranked 3rd 8%
Natural gas — ranked 2nd 20%

State Energy Contact

Ohio Department of Natural Resources
Division of Oil and Gas
Fountain Square Bldg. A
Columbus, OH 43224
(614) 265-6917

OKLAHOMA



☐ Counties with oil and/or gas production

Background Information

Number of counties 77
With oil and/or gas production 72

First year of production:
Crude oil 1891
Natural gas 1902

Year and amount of peak production:
Crude oil — 277,775 thous. bbls. 1927
Natural gas — 2,019,199 MMcf 1981

Deepest well drilled: (ft.)
Crude oil 22,850
Natural gas 24,969
Dry hole 31,441

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	231,914	59%
Gas wells	45,627	12%
Dry holes	112,230	29%
Total	388,771	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $67,970,416

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	13,692	3,728	17,420	80,798
Production	12,818	2,871	15,689	63,019

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $17.62
Natural gas ($/Mcf) $1.46

Wellhead value of 1987 production: (thous. $)
Crude oil $2,367,740
Natural gas $2,901,401
Total $5,269,141

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $4.84
Commercial consumers $4.16
Industrial consumers $2.27
Electric utilities $2.73
All consumers $3.15

Severance taxes paid in 1987 (thous. $) $372,883

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	28	1,545	1,573
Gas	36	920	956
Dry	171	857	1,028
Service	- -	50	50
Total	235	3,372	3,607

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	169.7	7,061.6	7,231.2
Gas	251.6	6,141.0	6,392.6
Dry	973.1	4,538.8	5,511.9
Service	- -	131.5	131.5
Total	1,394.4	17,872.9	19,267.2

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 104
New-field wildcat footage (thous. ft.) 598.4

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	3rd	2nd
Production	5th	3rd
Reserves (1986)	4th	3rd

Seismic crew months worked 80
Average rotary rigs active 136

Number of producing wells: (12/31/87)
Crude oil 101,745
Flowing 5,087
Artificial lift 96,658
Natural gas 26,595
Total 128,340

Average production:	thous. bbls.	thous. b/d
Crude oil	134,378	368
NGL	34,310	94
Total	168,688	462

Natural gas marketed production (MMcf) 1,987,261
Average output per producing well:
Crude oil (bbls.) 1,321
Natural gas (Mcf) 74,723

Average number of employees in:
Oil and gas extraction 43,438
Refining 7,074
Transportation 6,668
Wholesale 4,299
Retail 7,090
Total petroleum industry 68,569

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	80	119	199
Production	141	88	229
Net annual change	-61	31	-30
Proved reserves	874	857	1,731

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	415	2,053	2,468
Production	373	1,394	1,767
Net annual change	42	659	701
Proved reserves	2,191	15,588	17,779

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	508,398	250,937	52.55
Gas	520,532	502,930	77.40
Dry	281,563	230,789	44.57
Total	1,310,493	306,119	57.69

Number of producing stripper wells 84,425
Number of stripper well abandonments 1,442

Stripper well crude oil production:
(bbls.) 95,902,827
(b/d) 262,747
Percentage of oil produced by stripper wells 64%

Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 230,244
Secondary 259,636
Total 489,880

Percentage of total value of principal mineral production:
Crude oil — ranked 2nd 37%
Natural gas — ranked 1st 57%

State Energy Contact

Oklahoma Corporation Commission
Oil and Gas Division
Jim Thorpe Building
Oklahoma City, OK 73105
(405) 521-2301

OREGON

☐ Counties with oil and/or gas production

Background Information

Number of counties 36
With oil and/or gas production 1

First year of production:
Crude oil ..... Not Applicable
Natural gas 1979

Year and amount of peak production:
Crude oil ..... Not Applicable
Natural gas — 5,000 MMcf 1980/1981

Deepest well drilled: (ft.)
Crude oil ..... Not Applicable
Natural gas 3,027
Dry hole 13,177

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	0	0%
Gas wells	23	7%
Dry holes	297	93%
Total	320	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) ..... Not Applicable

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	0	N/A	0	40
Production	0	N/A	0	19

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) ..... Not Applicable
Natural gas ($/Mcf) $1.45

Wellhead value of 1987 production: (thous. $)
Crude oil $0
Natural gas $10,150
Total $10,150

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $6.69
Commercial consumers $5.36
Industrial consumers $3.22
Electric utilities ..... N/A
All consumers $4.61

Severance taxes paid in 1987 (thous. $) $121

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	0	0	0
Gas	3	4	7
Dry	3	0	3
Service	- -	0	0
Total	6	4	10

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	0.0	0.0	0.0
Gas	6.4	14.0	20.4
Dry	8.4	0.0	8.4
Service	- -	0.0	0.0
Total	14.8	14.0	28.8

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 1
New-field wildcat footage (thous. ft.) 2.8

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	- -	24th
Production	- -	24th
Reserves (1986)	- -	N/A

Seismic crew months worked 10
Average rotary rigs active 0

Number of producing wells: (12/31/87)
Crude oil 0
Flowing 0
Artificial lift 0
Natural gas ..... N/A
Total 0

Average production:	thous. bbls.	thous. b/d
Crude oil	0	0
NGL	0	0
Total	0	0

Natural gas marketed production (MMcf) 7,000
Average output per producing well:
Crude oil (bbls.) 0
Natural gas (Mcf) 0

Average number of employees in:
Oil and gas extraction 87
Refining 91
Transportation 0
Wholesale 2,451
Retail 8,801
Total petroleum industry 11,430

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	0	0	0
Production	0	0	0
Net annual change	0	0	0
Proved reserves	0	0	0

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	- - -	- - -	N/A
Production	- - -	- - -	N/A
Net annual change	- - -	- - -	N/A
Proved reserves	- - -	- - -	N/A

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	N/A	- - -	- - -
Gas	N/A	- - -	- - -
Dry	N/A	- - -	- - -
Total	N/A	- - -	- - -

Number of producing stripper wells 0
Number of stripper well abandonments 0

Stripper well crude oil production:
(bbls.) 0
(b/d) 0
Percentage of oil produced by stripper wells 0

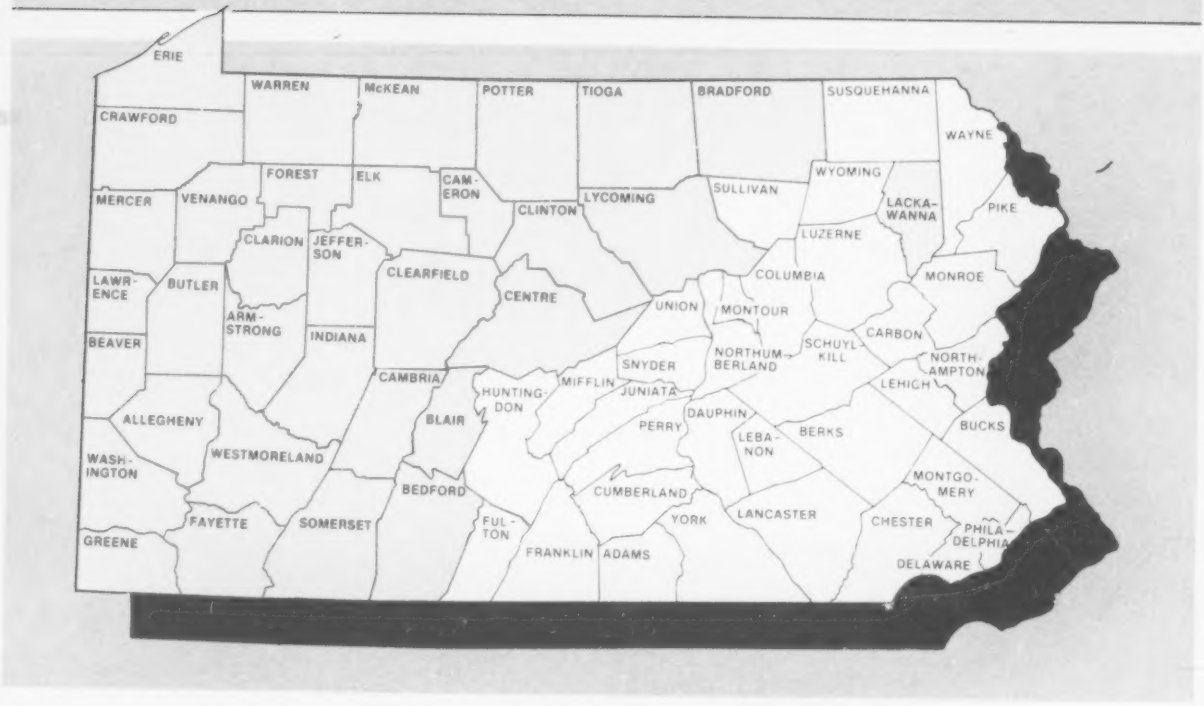
Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 0
Secondary 0
Total 0

Percentage of total value of principal mineral production:
Crude oil ..... Not Applicable
Natural gas — ranked 3rd 7%

State Energy Contact

Oregon Department of Geology and
Mineral Industries
910 State Office Building
Portland, OR 97201
(503) 229-5580

PENNSYLVANIA



☐ Counties with oil and/or gas production

Background Information

Number of counties 67
With oil and/or gas production 33

First year of production:
Crude oil 1859
Natural gas 1881

Year and amount of peak production:
Crude oil — 31,424 thous. bbls. 1891
Natural gas — 166,342 MMcf 1984

Deepest well drilled: (ft.)
Crude oil 8,484
Natural gas 19,365
Dry hole 21,460

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	249,911	78%
Gas wells	31,750	10%
Dry holes	38,502	12%
Total	320,163	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $4,040,540

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	1,343	15	1,358	11,6405
Production	1,317	15	1,332	10,078

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $17.43
Natural gas ($/Mcf) $2.25

Wellhead value of 1987 production: (thous. $)
Crude oil $57,554
Natural gas $385,875
Total $443,429

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $6.03
Commercial consumers $5.36
Industrial consumers $3.29
Electric utilities $3.62
All consumers $4.98

Severance taxes paid in 1987 ..... Not Applicable

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	1	28	29
Gas	10	788	798
Dry	10	40	50
Service	- -	1	1
Total	21	857	878

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	6.1	44.2	50.4
Gas	65.3	3,383.8	3,449.1
Dry	52.9	147.1	200.0
Service	- -	2.3	2.3
Total	124.3	3,577.4	3,701.8

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 8
New-field wildcat footage (thous. ft.) 43.2

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	21st	3rd
Production	23rd	10th
Reserves (1986)	24th	13th

Seismic crew months worked ..... N/A
Average rotary rigs active 17

Number of producing wells: (12/31/87)
Crude oil 14,271
Flowing 0
Artificial lift 14,271
Natural gas 26,000
Total 40,271

Average production:	thous. bbls.	thous. b/d
Crude oil	3,302	9
NGL	N/A	N/A
Total	3,302	9

Natural gas marketed production (MMcf) 171,500
Average output per producing well:
Crude oil (bbls.) 231
Natural gas (Mcf) 6,596

Average number of employees in:
Oil and gas extraction 4,100
Refining 9,000
Transportation 9,200
Wholesale 9,900
Retail 27,300
Total petroleum industry 59,500

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	-9	N/A	-9
Production	3	N/A	3
Net annual change	-12	N/A	-12
Proved reserves	26	N/A	26

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	-42	102	60
Production	3	113	116
Net annual change	-45	-11	-56
Proved reserves	22	1,540	1,562

Cost of drilling and equipping wells:

(Appalachia)	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	146,091	102,592	28.44
Gas	277,434	134,939	34.26
Dry	15,708	95,200	30.47
Total	439,233	120,503	31.94

Number of producing stripper wells 14,271
Number of stripper well abandonments 955

Stripper well crude oil production:
(bbls.) 3,356,076
(b/d) 9,195
Percentage of oil produced by stripper wells 89%

Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 16,873
Secondary 32,250
Total 49,123

Percentage of total value of principal mineral production:
Crude oil — ranked 7th 2%
Natural gas — ranked 2nd 12%

State Energy Contact

Pennsylvania Dept. of Environmental Resources
Oil and Gas Division
P.O. Box 2063
Harrisburg, PA 17120
(717) 787-2814

SOUTH DAKOTA

☐ Counties with oil and/or gas production

Background Information

Number of counties 67
With oil and/or gas production 4

First year of production:
Crude oil 1953
Natural gas 1899

Year and amount of peak production:
Crude oil — 1,644 thous. bbls. 1987
Natural gas — 2,900 MMcf (est.) 1987

Deepest well drilled: (ft.)
Crude oil 9,150
Natural gas 3,550
Dry hole 9,771

Cumulative number of total wells drilled as of 12/31/876: (excluding service wells)

Oil wells	216	19%
Gas wells	61	6%
Dry holes	832	75%
Total	1,109	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $333,976

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	N/A	N/A	- -	N/A
Production	N/A	N/A	- -	N/A

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $16.96
Natural gas ($/Mcf) $2.69

Wellhead value of 1987 production: (thous. $)
Crude oil $27,882
Natural gas $7,801
Total $35,683

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $4.88
Commercial consumers $4.16
Industrial consumers $3.11
Electric utilities ..... N/A
All consumers $4.35

Severance taxes paid in 1987 (thous. $) $979

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	2	0	2
Gas	0	6	6
Dry	6	0	6
Service	- -	0	0
Total	8	6	14

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	11.5	0.0	11.5
Gas	0.0	8.7	8.7
Dry	20.8	0.0	20.8
Service	- -	0.0	0.0
Total	32.3	8.7	40.9

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 5
New-field wildcat footage (thous. ft.) 16.2

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	26th	25th
Production	26th	27th
Reserves (1986)	N/A	N/A

Seismic crew months worked ..... Less than 1
Average rotary rigs active 0

Number of producing wells: (12/31/87)
Crude oil 149
Flowing 0
Artificial lift 149
Natural gas 52
Total 201

Average production:	thous. bbls.	thous. b/d
Crude oil	1,644	5
NGL	0	0
Total	1,644	5

Natural gas marketed production (MMcf) 2,900
Average output per producing well:
Crude oil (bbls.) 11,034
Natural gas (Mcf) 55,769

Average number of employees in:
Oil and gas extraction 100
Refining 0
Transportation 190
Wholesale 1,528
Retail 2,606
Total petroleum industry 4,424

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	N/A	0	0
Production	N/A	0	0
Net annual change	N/A	0	0
Proved reserves	N/A	0	0

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	- - -	- - -	N/A
Production	- - -	- - -	N/A
Net annual change	- - -	- - -	N/A
Proved reserves	- - -	- - -	N/A

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	N/A	- - -	- - -
Gas	N/A	- - -	- - -
Dry	N/A	- - -	- - -
Total	N/A	- - -	- - -

Number of producing stripper wells 17
Number of stripper well abandonments 4

Stripper well crude oil production:
(bbls.) 34,495
(b/d) 95
Percentage of oil produced by stripper wells 2%

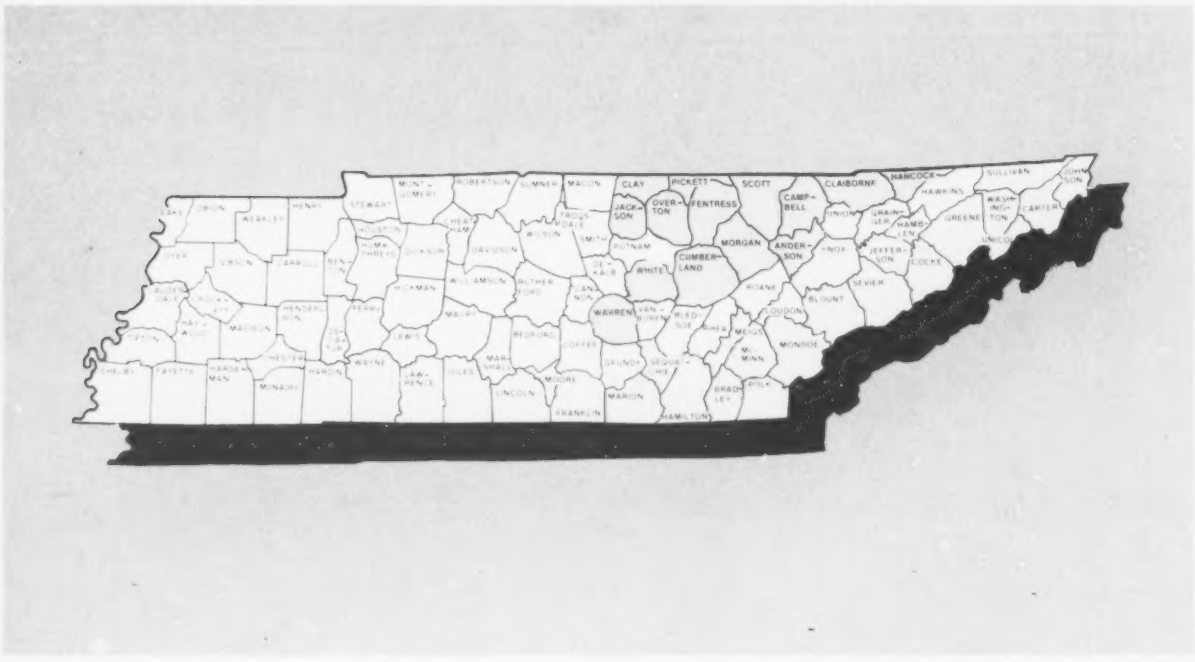
Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 145
Secondary 180
Total 325

Percentage of total value of principal mineral production:
Crude oil — ranked 1st 8%
Natural gas — ranked 5th 2%

State Energy Contact

South Dakota Geological Survey
University of South Dakota Science Center
Vermillion, SD 57069
(605) 677-5227

TENNESSEE



☐ Counties with oil and/or gas production

Background Information

Number of counties 95
With oil and/or gas production 14

First year of production:
Crude oil 1860
Natural gas 1889

Year and amount of peak production:
Crude oil — 1,132 thous. bbls. 1982
Natural gas — 5,022 MMcf 1984

Deepest well drilled: (ft.)
Crude oil 10,141
Natural gas 4,624
Dry hole 11,540

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	1,164	27%
Gas wells	1,584	26%
Dry holes	2,847	47%
Total	6,077	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $263,100

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	N/A	N/A	- - -	N/A
Production	N/A	N/A	- - -	N/A

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $15.84
Natural gas ($/Mcf) $1.31

Wellhead value of 1987 production: (thous. $)
Crude oil $9,726
Natural gas $5,895
Total $15,621

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $4.77
Commercial consumers $4.35
Industrial consumers $3.16
Electric utilities ..... N/A
All consumers $3.81

Severance taxes paid in 1987 (thous. $) $398

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	3	22	25
Gas	4	43	47
Dry	21	38	59
Service	- -	0	0
Total	28	103	131

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	7.1	36.4	43.4
Gas	4.9	64.3	69.1
Dry	35.1	63.0	98.1
Service	- -	0.0	0.0
Total	47.0	163.7	210.7

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 22
New-field wildcat footage (thous. ft.) 36.8

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	22nd	18th
Production	28th	25th
Reserves (1986)	N/A	N/A

Seismic crew months worked 2
Average rotary rigs active 0

Number of producing wells: (12/31/87)
Crude oil 648
Flowing 0
Artificial lift 648
Natural gas 790
Total 1,438

Average production:	thous. bbls.	thous. b/d
Crude oil	614	2
NGL	N/A	N/A
Total	614	2

Natural gas marketed production (MMcf) 4,500
Average output per producing well:
Crude oil (bbls.) 947
Natural gas (Mcf) 5,696

Average number of employees in:
Oil and gas extraction 351
Refining 466
Transportation 1,866
Wholesale 5,225
Retail 11,892
Total petroleum industry 19,800

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	N/A	N/A	- - -
Production	N/A	N/A	- - -
Net annual change	N/A	N/A	- - -
Proved reserves	N/A	N/A	- - -

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	- - -	- - -	N/A
Production	- - -	- - -	N/A
Net annual change	- - -	- - -	N/A
Proved reserves	- - -	- - -	N/A

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	N/A	- - -	- - -
Gas	N/A	- - -	- - -
Dry	N/A	- - -	- - -
Total	N/A	- - -	- - -

Number of producing stripper wells 848
Number of stripper well abandonments ..... N/A

Stripper well crude oil production:
(bbls.) 474,612
(b/d) 1,300
Percentage of oil produced by stripper wells 74%

Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 420
Secondary 100
Total 520

Percentage of total value of principal mineral production:
Crude oil — ranked 7th 1%
Natural gas — ranked 8th 1%

State Energy Contact

Tennessee Department of Conservation
Oil and Gas Division
701 Broadway Street
Nashville, TN 37203
(615) 742-6694

TEXAS

Counties with oil and/or gas production

Background Information

Number of counties 254
With oil and/or gas production 218

First year of production:
Crude oil 1889
Natural gas 1889

Year and amount of peak production:
Crude oil — 1,301,685 thous. bbls. 1972
Natural gas — 8,657,840 MMcf 1972

Deepest well drilled: (ft.)
Crude oil 28,500
Natural gas 26,536
Dry hole 29,670

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	499,350	58%
Gas wells	76,274	9%
Dry holes	278,295	33%
Total	853,919	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $350,072,520

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	65,453	14,457	79,910	319,565
Production	58,200	11,394	69,594	267,749

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $17.54
Natural gas ($/Mcf) $1.51

Wellhead value of 1987 production (thous. $)
Crude oil $13,610,373
Natural gas $9,152,050
Total $22,762,423

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $5.38
Commercial consumers $4.25
Industrial consumers $1.86
Electric utilities $2.13
All consumers $2.32

Severance taxes paid in 1987 (thous. $) $1,178,052

Compiled by IPAA–September 1988

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	253	5,171	5,424
Gas	309	1,262	1,571
Dry	1,639	2,039	3,678
Service	- -	349	349
Total	2,201	8,821	11,022

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	1,587.6	24,008.2	25,595.8
Gas	2,387.6	9,009.6	11,397.2
Dry	9,596.4	8,737.3	18,333.7
Service	- -	1,449.4	1,449.4
Total	13,571.6	43,204.5	56,776.0

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled	723
New-field wildcat footage (thous. ft.)	5,137.1

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	1st	1st
Production	1st	1st
Reserves (1986)	1st	1st

Seismic crew months worked	316
Average rotary rigs active	293
Number of producing wells: (12/31/87)	
Crude oil	198,163
Flowing	13,220
Artificial lift	184,943
Natural gas	45,552
Total	243,715

Average production:	thous. bbls.	thous. b/d
Crude oil	775,962	2,126
NGL	122,275	335
Total	898,237	2,461

Natural gas marketed production (MMcf)	6,060,960
Average output per producing well:	
Crude oil (bbls.)	3,916
Natural gas (Mcf)	133,056
Average number of employees in:	
Oil and gas extraction	171,253
Refining	30,812
Transportation	31,418
Wholesale	23,101
Retail	34,045
Total petroleum industry	290,629

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	154	411	565
Production	795	328	1,123
Net annual change	-641	83	-558
Proved reserves	7,253	3,064	10,317

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	916	4,203	5,119
Production	1,160	4,877	6,037
Net annual change	-244	-674	-918
Proved reserves	10,276	41,540	51,816

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/well ($)	Cost/ft. ($)
Oil	1,462,798	215,212	48.34
Gas	1,462,799	901,849	119.54
Dry	1,226,486	286,897	58.08
Total	4,152,083	327,090	65.27

Number of producing stripper wells	123,796
Number of stripper well abandonments	7,585
Stripper well crude oil production	
(bbls.)	147,986,409
(b/d)	405,442
Percentage of oil produced by stripper wells	18%
Stripper oil reserves as of 12/31/86: (thous. bbls.)	
Primary	934,040
Secondary	934,040
Total	1,868,080
Percentage of total value of principal mineral production:	
Crude oil — ranked 1st	50%
Natural gas — ranked 2nd	41%

State Energy Contact

Texas Railroad Commission
Office of Information Services
P.O. Drawer 12967
Austin, TX 78711
(512) 463-6710

UTAH

☐ Counties with oil and/or gas production

Background Information

Number of counties 29
With oil and/or gas production 10

First year of production:
Crude oil 1907
Natural gas 1886

Year and amount of peak production:
Crude oil — 42,301 thous. bbls. 1975
Natural gas — 94,255 MMcf 1982

Deepest well drilled: (ft.)
Crude oil 17,732
Natural gas 19,500
Dry hole 21,874

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	3,423	41%
Gas wells	1,353	16%
Dry holes	3,669	43%
Total	8,445	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $9,504,929

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	1,111	489	1,600	4,130
Production	842	108	950	1,924

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $17.25
Natural gas ($/Mcf) $1.88

Wellhead value of 1987 production: (thous. $)
Crude oil $617,343
Natural gas $175,039
Total $792,383

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $4.61
Commercial consumers $4.62
Industrial consumers $2.97
Electric utilities $5.47
All consumers $4.22

Severance taxes paid in 1987 (thous. $) $22,781

Compiled by IPAA–September 1988

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	11	41	52
Gas	6	15	21
Dry	30	14	44
Service	- -	2	2
Total	47	72	120

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	66.4	291.5	357.8
Gas	43.8	101.7	145.5
Dry	151.7	64.2	215.9
Service	- -	11.9	11.9
Total	261.9	469.3	733.4

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 32
New-field wildcat footage (thous. ft.) 165.5

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	19th	20th
Production	10th	17th
Reserves (1986)	9th	11th

Seismic crew months worked 21
Average rotary rigs active 7

Number of producing wells: (12/31/87)
Crude oil 1,785
Flowing 365
Artificial lift 1,420
Natural gas 497
Total 2,282

Average production:	thous. bbls.	thous. b/d
Crude oil	35,788	98
NGL	4,380	12
Total	40,168	110

Natural gas marketed production (MMcf) 93,106
Average output per producing well:
Crude oil (bbls.) 20,049
Natural gas (Mcf) 187,336

Average number of employees in:
Oil and gas extraction 1,903
Refining 789
Transportation 2,386
Wholesale 1,376
Retail 5,080
Total petroleum industry 11,534

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	16	10	26
Production	23	10	33
Net annual change	7	0	7
Proved reserves	269	160	429

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	44	-56	-12
Production	25	46	71
Net annual change	19	-102	-83
Proved reserves	410	1,795	2,205

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well($)	Cost/ ft. ($)
Oil	86,952	887,266	106.26
Gas	32,657	640,338	100.36
Dry	23,629	502,737	87.20
Total	143,238	730,806	101.25

Number of producing stripper wells 853
Number of stripper well abandonments 89

Stripper well crude oil production:
(bbls.) 877,813
(b/d) 2,405
Percentage of oil produced by stripper wells 2%

Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 12,728
Secondary 10,842
Total 23,570

Percentage of total value of principal mineral production:
Crude oil — ranked 34%
Natural gas — ranked 3rd 17%

State Energy Contact

Utah Geological and Mining Survey
Division of Oil, Gas and Mining
606 Black Hawk Way
Salt Lake City, UT 84108
(801) 581-6831

VIRGINIA

☐ Counties with oil and/or gas production

Background Information

Number of counties 96
With oil and/or gas production 8

First year of production:
Crude oil 1943
Natural gas 1931

Year and amount of peak production:
Crude oil — 65 thous. bbls. 1983
Natural gas — 23,225 MMcf (est.) 1987

Deepest well drilled: (ft.)
Crude oil 5,175
Natural gas 7,238
Dry hole 17,003

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	64	7%
Gas wells	648	76%
Dry holes	142	17%
Total	854	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $8,242

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	N/A	0	0	N/A
Production	N/A	0	0	N/A

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $15.75
Natural gas ($/Mcf) $2.25

Wellhead value of 1987 production: (thous. $)
Crude oil $268
Natural gas $52,256
Total $52,524

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $5.97
Commercial consumers $4.81
Industrial consumers $3.61
Electric utilities $2.53
All consumers $4.90

Severance taxes paid in 1987 ..... Not Applicable

Compiled by IPAA–September 1988

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	0	1	1
Gas	0	16	16
Dry	2	0	2
Service	- -	0	0
Total	2	17	19

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	0.0	2.5	2.5
Gas	0.0	81.7	81.7
Dry	3.4	0.0	3.4
Service	- -	0.0	0.0
Total	3.4	84.2	87.5

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 2
New-field wildcat footage (thous. ft.) 3.4

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	27th	22nd
Production	31st	22nd
Reserves (1986)	N/A	22nd

Seismic crew months worked ..... N/A
Average rotary rigs active 2

Number of producing wells: (12/31/87)
Crude oil 29
Flowing 0
Artificial lift 29
Natural gas 685
Total 714

Average production:	thous. bbls.	thous. b/d
Crude oil	17	- -
NGL	0	- -
Total	17	- -

Natural gas marketed production (MMcf) 23,225
Average output per producing well:
Crude oil (bbls.) 586
Natural gas (Mcf) 33,905

Average number of employees in:
Oil and gas extraction ..... N/A
Refining 55
Transportation 3,012
Wholesale 8,335
Retail 15,482
Total petroleum industry 26,884

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	N/A	0	0
Production	N/A	0	0
Net annual change	N/A	0	0
Proved reserves	N/A	0	0

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	0	33	33
Production	0	15	15
Net annual change	0	18	18
Proved reserves	0	253	253

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	N/A	- -	- -
Gas	N/A	- -	- -
Dry	N/A	- -	- -
Total	N/A	- -	- -

Number of producing stripper wells 49
Number of stripper well abandonments 5

Stripper well crude oil production:
(bbls.) 14,115
(b/d) 39
Percentage of oil produced by stripper wells 78%

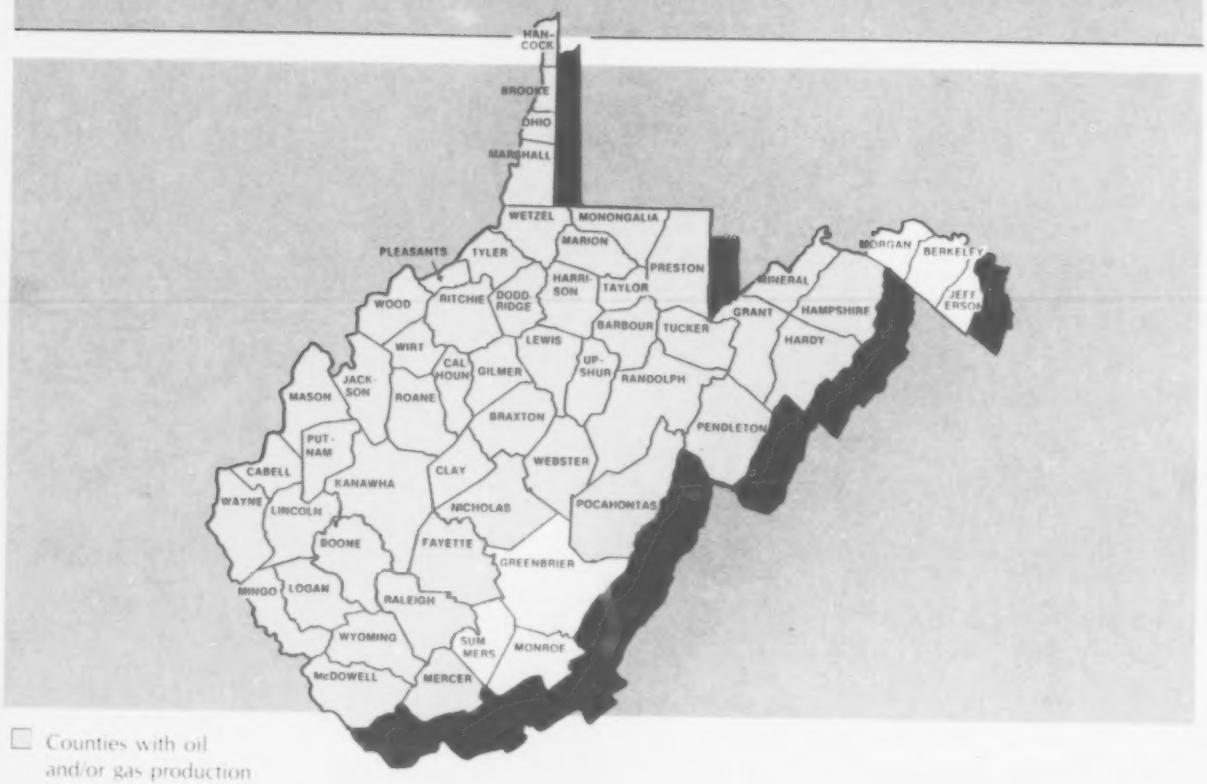
Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 64
Secondary 7
Total 71

Percentage of total value of principal mineral production:
Crude oil — ranked 8th ..... Less than 1%
Natural gas — ranked 4th 2%

State Energy Contact

Virginia Energy Department
Office of Oil and Gas
P.O. Box 1197
Richmond, VA 23209
(804) 786-3611

WEST VIRGINIA



☐ Counties with oil and/or gas production

Background Information

Number of counties 55
With oil and/or gas production 49

First year of production:
Crude oil 1860
Natural gas 1885

Year and amount of peak production:
Crude oil – - 16,196 thous. bbls. 1900
Natural gas — 242,452 MMcf 1970

Deepest well drilled: (ft.)
Crude oil 6,785
Natural gas 14,300
Dry hole 20,222

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	47,855	42%
Gas wells	46,558	41%
Dry holes	19,562	17%
Total	113,975	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $2,092,429

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	585	360	945	18,538
Production	548	273	821	16,266

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $16.56
Natural gas ($/Mcf) $3.85

Wellhead value of 1987 production: (thous. $)
Crude oil $46,948
Natural gas $446,046
Total $492,993

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $6.01
Commercial consumers $5.52
Industrial consumers $2.97
Electric utilities $3.91
All consumers $4.64

Severance taxes paid in 1987 (thous. $) $40,133

Compiled by IPAA–September 1988

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	0	91	91
Gas	12	705	717
Dry	4	5	9
Service	- -	0	0
Total	16	801	817

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	0.0	261.8	261.8
Gas	60.4	3,014.8	3,075.2
Dry	13.7	15.8	29.5
Service	- -	0.0	0.0
Total	74.1	3,292.4	3,366.5

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 5
New-field wildcat footage (thous. ft.) 12.7

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	16th	4th
Production	25th	16th
Reserves (1986)	21st	10th

Seismic crew months worked ..... N/A
Average rotary rigs active 13

Number of producing wells: (12/31/87)
Crude oil 15,850
Flowing 0
Artificial lift 15,850
Natural gas 33,950
Total 49,800

Average production:	thous. bbls.	thous. b/d
Crude oil	2,835	8
NGL	2,555	7
Total	5,390	15

Natural gas marketed production (MMcf) 115,856
Average output per producing well:
Crude oil (bbls.) 179
Natural gas (Mcf) 3,413

Average number of employees in:
Oil and gas extraction 4,298
Refining 549
Transportation 4,934
Wholesale 1,495
Retail 4,844
Total petroleum industry 16,120

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	0	7	7
Production	3	6	9
Net annual change	-3	1	-2
Proved reserves	37	87	124

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	-3	259	256
Production	5	156	161
Net annual change	8	415	423
Proved reserves	65	2,207	2,272

Cost of drilling and equipping wells:

(Appalachia)	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	146,091	102,592	28.44
Gas	277,434	134,939	34.26
Dry	15,708	95,200	30.47
Total	439,233	120,503	31.94

Number of producing stripper wells 15,880
Number of stripper well abandonments 24

Stripper well crude oil production:
(bbls.) 2,988,000
(b/d) 8,186
Percentage of oil produced by stripper wells 100%

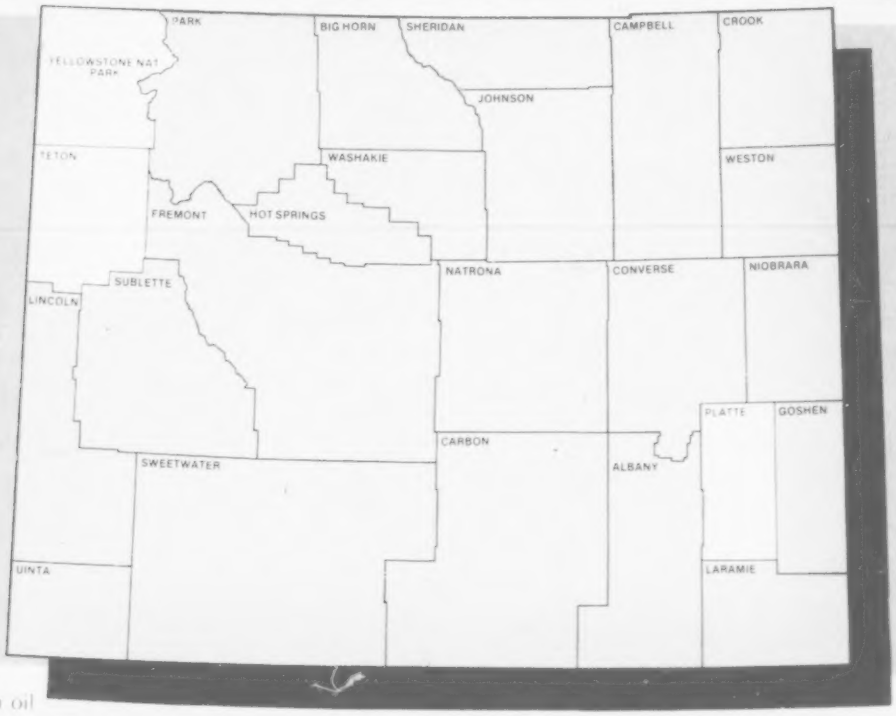
Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 15,158
Secondary 22,736
Total 37,894

Percentage of total value of principal mineral production:
Crude oil — ranked 3rd 1%
Natural gas — ranked 2nd 11%

State Energy Contact

West Virginia Department of Mines
Oil and Gas Division
1615 Washington Street, East
Charleston, WV 25311
(304) 348-3500

WYOMING



☐ Counties with oil and/or gas production

Background Information

Number of counties 23
With oil and/or gas production 20

First year of production:
Crude oil 1867
Natural gas 1889

Year and amount of peak production:
Crude oil — 160,345 thous. bbls. 1970
Natural gas — 516,683 MMcf 1984

Deepest well drilled: (ft.)
Crude oil 19,612
Natural gas 24,877
Dry hole 25,764

Cumulative number of total wells drilled as of 12/31/87: (excluding service wells)

Oil wells	26,296	51%
Gas wells	3,661	7%
Dry holes	21,358	42%
Total	51,315	100%

Cumulative crude oil wellhead value as of 12/31/87: (thous. $) $40,077,279

Cumulative production & new reserves as of 12/31/86: (latest available data)

	Crude oil	NGL (mill. bbls.)	Total	Natural gas (Bcf)
Reserves	6,100	949	7,049	22,179
Production	5,263	425	5,688	11,786

Value of Oil and Gas

Average 1987 wellhead price:
Crude oil ($/bbl.) $16.44
Natural gas ($/Mcf) $1.76

Wellhead value of 1987 production: (thous. $)
Crude oil $1,894,989
Natural gas $775,426
Total $2,670,416

Average 1987 natural gas price to: ($/Mcf)
Residential consumers $4.89
Commercial consumers $3.57
Industrial consumers $3.29
Electric utilities $3.32
All consumers $3.91

Severance taxes paid in 1987 (thous. $) $138,915

1987 Industry Statistics

Number of wells drilled:

	Exploratory	Development	Total
Oil	44	279	323
Gas	12	45	57
Dry	266	98	364
Service	- -	31	31
Total	322	453	775

Total footage drilled:

(thous. ft.)	Exploratory	Development	Total
Oil	385.4	1,264.0	1,649.4
Gas	88.1	356.2	444.3
Dry	2,108.5	723.0	2,831.5
Service	- -	134.3	134.3
Total	2,581.9	2,477.5	5,059.5

(Note: Totals may not add due to rounding.)

Number of new-field wildcats drilled 0
New-field wildcat footage (thous. ft.) 0

State-wide rank in:	Crude Oil	Natural Gas
Wells drilled	9th	16th
Production	6th	5th
Reserves (1986)	5th	7th

Seismic crew months worked 64
Average rotary rigs active 39

Number of producing wells: (12/31/87)
Crude oil 10,953
Flowing 788
Artificial lift 10,165
Natural gas 2,104
Total 13,057

Average production:	thous. bbls.	thous. b/d
Crude oil	115,267	316
NGL	19,345	53
Total	134,612	369

Natural gas marketed production (MMcf) 440,583
Average output per producing well:
Crude oil (bbls.) 10,524
Natural gas (Mcf) 209,403

Average number of employees in:
Oil and gas extraction 8,866
Refining 911
Transportation 1,306
Wholesale 1,030
Retail 2,894
Total petroleum industry 15,007

1986 Latest Available Data

Petroleum reserve position as of 12/31/86:

(mill. bbls.)	Crude Oil	NGL	Total
New reserves	3	49	52
Production	105	48	153
Net annual change	-102	1	-101
Proved reserves	849	790	1,639

Natural gas reserve position as of 12/31/86:

(Bcf)	Associated dissolved	Non-associated	Total gas
New reserves	84	-492	-408
Production	103	325	428
Net annual change	-19	-817	-836
Proved reserves	691	9,702	10,393

Cost of drilling and equipping wells:

	Total cost (thous. $)	Cost/ well ($)	Cost/ ft. ($)
Oil	145,886	429,078	69.89
Gas	119,650	2,492,710	241.48
Dry	180,275	429,227	53.08
Total	445,812	551,747	74.56

Number of producing stripper wells 3,996
Number of stripper well abandonments 1,204
Stripper well crude oil production:
(bbls.) 7,983,984
(b/d) 21,874
Percentage of oil produced by stripper wells 7%

Stripper oil reserves as of 12/31/86: (thous. bbls.)
Primary 100,170
Secondary 61,380
Total 161,550

Percentage of total value of principal mineral production:
Crude oil — ranked 1st 34%
Natural gas — ranked 3rd 22%

State Energy Contact

Wyoming Oil and Gas Conservation Commission
777 West First Street
P.O. Box 2640
Casper, WY 82602
(307) 234-7147

Exploration

Seismic Exploration Activity

(crew months)	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Alabama	32	50	126	156	116	105	157	78	16	18
Alaska	16	30	37	82	129	58	79	48	16	5
Arizona	8	54	35	33	9	4	7	4	5	1
Arkansas	48	35	37	67	117	117	40	57	12	1
California	119	122	157	192	221	186	152	149	125	113
Colorado	61	58	87	56	141	176	208	131	84	109
Florida	18	17	21	42	20	37	10	18	6	8
Illinois	3	10	5	9	16	11	13	11	1	0
Indiana	0	0	6	0	1	3	13	3	0	1
Kansas	64	88	76	65	98	75	114	69	35	19
Kentucky	1	7	23	12	4	24	3	3	1	0
Louisiana	560	665	654	501	563	423	436	280	157	91
Maryland	0	1	4	6	2	2	1	0	1	0
Michigan	244	111	145	239	159	160	144	241	259	296
Mississippi	173	154	168	175	180	124	85	78	38	14
Montana	155	135	202	388	224	156	125	43	47	28
Nebraska	2	24	13	17	20	14	16	8	7	10
Nevada	45	51	47	41	61	39	54	60	16	6
New Mexico	89	85	120	136	156	116	114	63	71	46
New York	2	2	11	7	7	7	12	9	7	0
North Dakota	269	269	242	268	252	114	74	79	42	37
Ohio	2	1	3	8	3	15	12	9	2	12
Oklahoma	234	240	169	301	256	316	231	202	130	80
Oregon	4	0	9	27	27	13	33	19	8	10
Pennsylvania	41	33	39	49	37	27	3	17	13	0
South Dakota	63	3	2	3	9	14	4	0	7	†
Tennessee	9	26	30	34	24	17	19	4	0	2
Texas	1,095	1,213	1,438	1,745	1,583	1,353	1,199	932	481	316
Utah	163	106	158	122	127	111	121	29	10	21
Virginia	4	17	24	31	18	9	3	6	7	0
West Virginia	11	15	24	23	9	17	17	4	2	0
Wyoming	211	366	274	317	253	323	306	163	114	64
Other	138	134	227	269	258	208	297	80	46	32
Total Land	**3,884**	**4,122**	**4,613**	**5,421**	**5,100**	**4,374**	**4,102**	**2,897**	**1,766**	**1,337**
Total Marine	**263**	**278**	**348**	**456**	**578**	**569**	**577**	**597**	**258**	**224**
TOTAL U.S.	**4,148**	**4,400**	**4,962**	**5,877**	**5,676**	**4,943**	**4,679**	**3,494**	**2,024**	**1,561**

Source: Society of Exploration Geophysicists
† Averages less than one

Notes: Data include government and university activity but exclude gravity and magnetic methods.
Totals may not add due to rounding.

Hourly Wages

($/hr.)	Oil & Gas Industry	All Mfg. Industry
1963	2.92	2.46
1964	2.95	2.53
1965	3.03	2.61
1966	3.13	2.72
1967	3.25	2.83
1968	3.39	3.01
1969	3.60	3.19
1970	3.83	3.36
1971	4.15	3.56
1972	4.52	3.82
1973	4.79	4.09
1974	5.30	4.42
1975	6.01	4.83
1976	6.61	5.22
1977	7.16	5.68
1978	8.05	6.17
1979	8.78	6.70
1980	9.70	7.27
1981	10.78	7.99
1982	11.81	8.50
1983	12.38	8.84
1984	12.77	9.18
1985	13.31	9.52
1986	13.75	9.73
1987	14.02	9.91

Source: Bureau of Labor Statistics

INTRODUCING WILDCAT 50. MORE PIPE THAN MOST WELLS NEED.

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World Crude Oil Reserves

(mill. bbls.)	United States	Canada	Latin America	Middle East	Africa	Asia Pacific	Western Europe	Communist Nations	Total World
1976	33,502	6,247	29,609	367,681	60,570	19,391	24,539	101,100	640,090
1977	31,780	5,971	40,270	366,166	59,200	19,749	26,863	98,000	645,805
1978	31,335	6,860	41,247	369,996	57,892	20,007	23,966	94,000	641,772
1979	29,810	6,800	56,473	361,947	57,072	19,355	23,476	90,000	642,175
1980	29,805	6,400	69,490	362,071	55,148	19,631	23,085	86,300	651,930
1981	29,426	7,300	84,982	362,840	56,172	19,151	24,635	85,845	670,350
1982	27,858	7,020	78,482	369,286	57,822	19,756	22,924	85,115	668,262
1983	27,735	6,730	81,676	370,101	56,907	18,969	23,020	84,600	669,738
1984	28,446	7,075	83,316	398,381	55,541	18,530	24,426	84,100	699,813
1985	28,416	6,500	84,242*	398,036	56,734	18,856	26,413	81,370	700,567
1986	26,889	6,850	88,755	401,879	55,194	19,024	21,938	79,250	699,779
1987	25,270*	6,825	114,321	564,680	55,250	19,354	22,448	79,200	887,348*

Sources: American Petroleum Institute
Energy Information Administration, and
Oil and Gas Journal

Notes: Totals may not add due to rounding.
Data quoted as of December 31st.

* Preliminary estimate

Rotary Rigs Operating

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Alabama	13	13	11	17	15	16	15	22	10	11
Alaska	16	14	14	23	22	14	14	20	13	8
Arizona	†	0	1	1	1	†	0	†	0	0
Arkansas	14	10	27	34	27	26	26	24	9	9
California	94	96	120	155	129	106	107	81	49	61
Colorado	41	40	61	82	60	52	54	50	24	25
Florida	6	5	4	8	5	4	4	7	2	3
Illinois	28	13	25	45	76	61	41	29	6	3
Indiana	4	†	†	1	7	6	7	4	1	1
Kansas	76	66	120	196	157	125	128	92	47	49
Kentucky	3	†	2	5	10	8	8	6	2	2
Louisiana	338	347	427	456	343	282	310	283	142	135
Michigan	24	25	31	37	31	29	34	34	24	22
Mississippi	45	40	58	72	42	33	32	31	15	13
Montana	30	33	49	81	36	24	36	23	10	9
Nebraska	10	9	14	15	9	9	9	7	3	5
Nevada	3	4	5	5	3	1	5	5	3	1
New Mexico	76	88	118	135	103	65	78	71	29	35
New York	7	9	7	12	15	10	9	5	2	2
North Dakota	39	56	83	119	69	42	51	39	13	14
Ohio	46	46	74	98	57	40	51	29	18	20
Oklahoma	258	247	397	698	622	285	319	252	142	136
Oregon	†	1	†	2	†	†	1	1	0	0
Pennsylvania	25	29	29	39	33	22	36	30	17	17
South Dakota	2	1	2	2	2	1	2	2	1	0
Texas	855	770	987	1,317	990	797	850	680	312	293
Utah	32	29	42	69	40	37	45	29	11	7
Virginia	1	1	1	3	3	2	3	4	5	2
West Virginia	27	30	38	45	49	34	38	26	15	13
Wyoming	136	147	155	191	143	96	115	93	36	39
Other	10	8	7	7	6	5	0	1	3	1
TOTAL U.S.	2,259	2,177	2,909	3,970	3,105	2,232	2,428	1,980	964	936

Source: Baker Hughes, Inc.
† Averages less than one.

Note: Data represent annual averages and include offshore rigs.

Crude Oil Production By Chase Group

(thous. b/d)	Chase Group	All Other	Total Industry
1955	4,173	2,634	6,807
1956	4,406	2,745	7,151
1957	4,487	2,683	7,170
1958	4,141	2,569	6,710
1959	4,379	2,675	7,054
1960	4,423	2,612	7,035
1961	4,510	2,673	7,183
1962	4,706	2,626	7,332
1963	4,905	2,637	7,542
1964	5,017	2,597	7,614
1965	5,269	2,535	7,804
1966	5,628	2,667	8,295
1967	6,070	2,740	8,810
1968	6,312	2,784	9,096
1969	6,418	2,820	9,238
1970	6,814	2,823	9,637
1971	6,747	2,716	9,463
1972	6,730	2,711	9,441
1973	6,570	2,638	9,208
1974	6,173	2,601	8,774
1975	5,891	2,484	8,375
1976	5,587	2,545	8,132
1977	5,668	2,577	8,245
1978	6,193	2,514	8,707
1979	5,944	2,608	8,552
1980	6,071	2,526	8,597
1981	5,932	2,640	8,572
1982	5,964	2,685	8,649
1983	5,890*	2,798*	8,688
1984	5,870*	3,009*	8,879
1985	5,850*	3,121*	8,971
1986	5,750*	2,930*	8,680
1987	N/A	N/A	8,349
Excluding Alaska North Slope			
1977	5,358	2,576	7,934
1978	5,103	2,514	7,617
1979	4,661	2,608	7,269
1980	4,554	2,526	7,080
1981	4,408	2,640	7,048
1982	4,343	2,685	7,028
1983	4,244*	2,798*	7,042
1984	4,208*	3,009*	7,217
1985	4,071*	3,121*	7,192
1986	3,932*	2,930*	6,862
1987	N/A	N/A	6,387

Source: Chase Manhattan Bank

* Estimated by IPAA

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Peak Year Milestones

Seismic Crew Months Worked	1952	7,958	
Rotary Rigs Active	1981	3,970	
New-field Wildcat Wells Drilled	1981	9,151	
Exploratory Wells Drilled	1981	17,430	
Oil Wells Drilled	1984	43,967	
Gas Wells Drilled	1981	19,742	
Dry Holes Drilled	1981	26,972	
Total Wells Drilled	1981	91,600	
Total Footage Drilled	1981	412,310	thous. ft.
Crude Oil Production	1970	9,637	thous. b/d
Stripper Well Production	1961	1,622	thous. b/d
Petroleum Imports	1977	8,787	thous. b/d
Petroleum Demand	1978	19,209	thous. b/d
Natural Gas Marketed Production	1973	22,648	Bcf
Natural Gas Imports	1979	1,253	Bcf
Crude Oil Wellhead Value	1981	99,401	mill. $
Natural Gas Wellhead Value	1984	48,492	mill. $
Severance Taxes Paid	1982	7,133	mill. $
Total Drilling Costs	1982	39,428	mill. $

Drilling

New-Field Wildcat Wells Drilled

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Alabama	57	92	73	71	79	84	121	143	73	55
Alaska	6	12	16	14	7	0	10	3	0	3
Arizona	0	2	6	8	6	11	2	1	5	4
Arkansas	95	99	109	146	120	148	124	109	68	65
California	108	113	140	132	94	93	112	98	50	70
Colorado	309	294	353	509	366	299	369	355	176	164
Florida	15	10	8	10	12	13	12	10	6	4
Illinois	78	56	107	167	251	428	324	181	126	97
Indiana	104	63	104	95	113	124	97	103	43	39
Kansas	311	368	386	480	362	345	229	261	364	676
Kentucky	73	86	89	99	177	155	136	72	114	49
Louisiana	567	531	673	800	659	553	673	555	320	297
Michigan	266	247	313	402	449	304	537	445	235	240
Mississippi	237	232	280	355	268	252	281	259	104	104
Missouri	6	9	8	28	11	17	13	9	5	5
Montana	245	255	277	400	204	142	202	194	116	75
Nebraska	242	243	237	269	191	187	176	149	58	94
Nevada	13	11	20	25	10	6	31	24	19	11
New Mexico	149	157	214	248	205	118	112	132	46	50
New York	32	25	30	25	5	10	10	6	4	3
North Dakota	127	113	192	332	246	127	180	133	71	60
Ohio	6	21	4	20	35	27	30	22	21	9
Oklahoma	197	176	196	267	263	168	164	144	128	104
Oregon	0	10	24	11	2	0	2	2	1	1
Pennsylvania	17	19	22	16	21	3	18	22	6	8
South Dakota	21	25	29	46	30	33	14	15	16	5
Tennessee	91	116	222	256	328	311	163	100	35	22
Texas	2,860	2,588	2,698	3,154	2,293	1,721	1,768	1,489	845	723
Utah	65	65	76	136	108	101	101	43	29	32
Virginia	2	4	2	6	13	13	3	2	6	2
West Virginia	16	16	22	39	26	10	8	6	2	5
Wyoming	393	323	369	551	386	394	507	451	293	265
Other	23	42	33	34	46	44	90	116	75	45
TOTAL U.S.	**6,731**	**6,423**	**7,332**	**9,151**	**7,386**	**6,241**	**6,619**	**5,654**	**3,460**	**3,386**

Source: American Petroleum Institute

Notes: Data include oil wells, gas wells, and dry holes.
Federal offshore wells are included in "Other."

Exploratory Wells Drilled

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Alabama	60	101	77	75	79	84	121	143	77	68
Alaska	12	14	16	20	10	3	13	5	2	3
Arizona	0	2	6	8	7	11	2	2	5	4
Arkansas	95	105	111	154	128	155	133	122	85	85
California	359	395	443	538	468	205	210	217	134	154
Colorado	449	456	553	849	653	510	580	563	284	254
Florida	15	11	8	10	12	13	12	10	6	4
Illinois	277	284	487	736	695	878	777	540	302	220
Indiana	268	183	327	347	451	459	409	406	153	137
Kansas	1,181	1,022	1,237	1,848	1,838	1,724	2,282	1,513	1,107	1,234
Kentucky	353	423	619	870	1,119	1,421	990	649	195	108
Louisiana	782	665	808	971	801	597	767	621	423	352
Michigan	267	255	316	402	449	306	537	454	259	272
Mississippi	241	242	310	357	268	252	281	260	109	116
Missouri	6	15	22	78	79	45	28	15	5	6
Montana	324	349	382	521	275	185	252	223	143	98
Nebraska	265	265	252	279	197	189	180	160	85	123
Nevada	14	11	20	28	11	8	32	25	20	13
New Mexico	205	212	273	358	314	195	225	290	156	153
New York	45	60	59	79	44	44	30	18	7	5
North Dakota	162	175	256	461	371	211	279	219	126	97
Ohio	77	114	66	151	180	114	110	84	31	36
Oklahoma	495	479	554	733	707	570	518	406	217	235
Oregon	0	17	32	20	8	0	2	4	8	6
Pennsylvania	94	105	255	342	165	92	106	60	24	21
South Dakota	21	32	33	47	33	34	16	16	17	8
Tennessee	149	163	293	333	413	335	164	117	56	28
Texas	4,085	3,910	4,354	5,688	5,077	4,566	5,136	4,178	2,510	2,201
Utah	80	89	112	208	149	133	113	56	37	47
Virginia	5	4	2	6	26	15	3	3	7	2
West Virginia	151	124	119	170	156	66	39	35	12	16
Wyoming	470	411	435	708	537	477	607	552	363	322
Other	23	42	33	35	46	46	94	117	79	46
TOTAL U.S.	**11,030**	**10,735**	**12,870**	**17,430**	**15,766**	**13,943**	**15,048**	**12,083**	**7,044**	**6,474**

Source: American Petroleum Institute

Notes: Data include oil wells, gas wells, and dry holes. Federal offshore wells are included in "Other."

Development Wells Drilled

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Alabama	101	118	119	142	133	150	266	217	142	116
Alaska	55	71	108	146	200	157	191	142	174	85
Arizona	8	1	0	5	1	1	0	1	0	0
Arkansas	347	393	496	723	680	729	740	875	399	318
California	1,639	1,592	2,072	2,593	2,107	2,222	3,299	3,186	1,942	2,083
Colorado	701	607	857	1,122	1,173	993	1,224	969	743	613
Florida	11	20	11	15	9	7	12	11	8	5
Illinois	855	967	1,828	2,550	2,433	2,318	2,314	1,865	1,010	962
Indiana	401	302	406	460	571	542	529	544	271	166
Kansas	3,312	3,338	4,923	6,542	6,491	5,407	4,208	4,011	2,014	1,845
Kentucky	657	709	1,463	2,030	2,583	2,861	2,854	2,016	788	518
Louisiana	3,001	3,358	4,223	4,362	4,244	4,379	6,029	4,793	2,221	1,926
Michigan	257	264	345	362	435	471	574	398	265	246
Mississippi	248	281	360	431	316	298	331	312	185	199
Missouri	26	56	143	189	104	133	85	62	5	12
Montana	453	471	507	744	536	330	563	386	204	187
Nebraska	183	184	260	327	212	182	187	114	55	62
Nevada	7	0	1	2	0	1	5	9	0	2
New Mexico	1,375	1,396	1,793	2,099	1,733	1,306	1,404	1,435	760	617
New York	330	437	436	492	623	401	591	422	224	193
North Dakota	178	265	360	417	325	278	421	278	93	86
Ohio	3,254	3,532	5,023	5,926	4,618	4,402	4,893	3,667	1,898	1,497
Oklahoma	5,641	6,477	9,568	12,357	10,660	8,489	9,086	7,170	4,253	3,322
Oregon	0	4	9	0	0	0	0	2	2	4
Pennsylvania	2,013	2,068	2,833	3,517	3,168	2,547	3,548	2,751	1,162	856
South Dakota	29	17	41	43	20	18	28	31	0	6
Tennessee	115	185	257	295	214	211	237	147	122	103
Texas	11,260	11,414	15,172	20,291	19,707	19,262	21,982	19,275	10,231	8,472
Utah	186	187	177	347	313	285	381	302	159	70
Virginia	26	21	25	26	71	24	65	85	132	17
West Virginia	1,352	1,445	1,752	1,948	1,921	1,600	1,884	1,403	859	801
Wyoming	996	963	1,037	1,289	1,124	1,010	1,156	917	449	422
Other	14	12	11	12	26	46	26	35	50	33
TOTAL U.S.	**39,031**	**41,155**	**56,616**	**71,804**	**66,751**	**61,060**	**69,113**	**57,831**	**30,820**	**25,844**

Source: American Petroleum Institute

Notes: Data include oil wells, gas wells, and dry holes.
Federal offshore wells are included in "Other."

Total Wells Drilled

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Alabama	161	219	196	222	214	234	387	360	219	184
Alaska	76	96	125	172	227	164	215	150	182	89
Arizona	8	4	6	14	14	12	2	7	5	4
Arkansas	450	504	612	889	825	907	898	1,018	484	403
California	2,485	2,340	3,039	3,838	3,097	2,831	3,947	3,712	2,134	2,343
Colorado	1,156	1,069	1,414	1,977	1,832	1,505	1,810	1,554	1,029	871
Florida	29	32	21	25	21	20	24	21	14	9
Illinois	1,202	1,327	2,482	3,436	3,253	3,322	3,140	2,409	1,327	1,276
Indiana	685	494	751	828	1,051	1,035	1,003	980	443	317
Kansas	4,576	4,436	6,266	8,551	8,561	7,337	6,606	5,619	3,128	3,085
Kentucky	1,077	1,195	2,171	3,062	3,804	4,424	3,936	2,697	987	635
Louisiana	3,817	4,063	5,147	5,503	5,117	5,037	6,923	5,490	2,648	2,278
Michigan	539	538	676	787	900	791	1,131	872	540	528
Mississippi	496	534	680	788	584	550	613	572	295	315
Missouri	49	85	266	397	305	245	260	86	10	18
Montana	778	822	902	1,289	816	519	829	612	347	296
Nebraska	451	450	514	608	414	372	378	277	156	195
Nevada	22	12	21	34	13	9	37	34	20	15
New Mexico	1,625	1,656	2,126	2,527	2,100	1,539	1,674	1,746	932	784
New York	427	513	507	578	668	447	621	440	231	198
North Dakota	341	440	619	879	696	489	700	497	219	183
Ohio	3,333	3,657	5,093	6,082	4,814	4,542	5,036	3,758	1,938	1,533
Oklahoma	6,164	6,980	10,158	13,125	11,390	9,097	9,682	7,657	4,506	3,607
Oregon	0	21	41	20	8	0	2	6	10	10
Pennsylvania	2,182	2,295	3,261	3,962	3,399	2,688	3,727	2,839	1,186	878
South Dakota	50	49	75	90	53	52	44	49	17	14
Tennessee	264	348	550	628	627	546	401	264	178	131
Texas	15,763	15,810	20,038	26,442	25,439	24,526	27,917	24,348	13,211	11,022
Utah	268	284	291	555	482	418	495	361	198	120
Virginia	31	25	27	32	97	39	68	88	139	19
West Virginia	1,537	1,612	1,924	2,170	2,114	1,689	1,959	1,442	871	817
Wyoming	1,489	1,392	1,518	2,043	1,719	1,532	1,821	1,533	827	775
Other	40	60	45	47	75	132	126	152	129	79
TOTAL U.S.	**51,671**	**53,362**	**71,562**	**91,600**	**84,729**	**77,050**	**86,412**	**71,650**	**38,560**	**33,031**

Source: American Petroleum Institute

Notes: Data include oil, gas and service wells, dry holes, stratigraphic and core tests.
Federal offshore wells are included in "Other."

Cost of Drilling & Equipping Wells—1986

	No. of Wells Drilled	Footage Drilled	Depth per Well	Total Cost	Cost per Well	Cost per Foot
		(ft.)			($)	
Alabama	214	1,196,056	5,589	130,710,674	610,798	109.28
Alaska	257	2,486,388	9,675	653,212,217	2,541,682	262.72
Arkansas	481	1,936,733	4,026	86,880,898	180,626	44.86
California	2,509	6,095,322	2,429	535,854,650	213,573	87.91
Colorado	1,034	6,410,186	6,199	289,448,551	279,931	45.15
Florida	13	190,901	14,685	23,478,397	1,806,031	122.99
Illinois	1,166	2,527,690	2,168	74,563,741	63,948	29.50
Indiana	367	588,998	1,605	15,202,420	41,423	25.81
Kansas	2,995	9,638,264	3,218	232,716,102	77,702	24.15
Kentucky	869	1,361,463	1,567	49,577,547	57,051	36.41
Louisiana	2,734	18,521,595	6,775	2,930,206,600	1,071,765	158.20
Michigan	487	2,432,653	4,995	160,377,128	329,316	65.93
Mississippi	302	2,704,038	8,954	186,995,857	619,192	69.15
Montana	348	1,356,769	3,899	87,630,409	251,812	64.59
Nebraska	143	774,166	5,414	22,490,467	157,276	29.05
New Mexico	911	5,776,589	6,341	349,891,133	384,074	60.57
North Dakota	220	2,023,915	9,200	129,515,848	588,708	63.99
Oklahoma	4,281	22,717,135	5,307	1,310,493,312	306,119	57.69
Texas	12,694	63,611,368	5,011	4,152,082,980	327,090	65.27
Utah	196	1,414,665	7,218	143,237,914	730,806	101.25
Wyoming	808	5,979,316	7,400	445,811,821	551,747	74.56
Appalachia	3,645	13,749,825	3,772	439,233,486	120,503	31.94
Federal Waters	132	1,492,611	11,308	1,018,611,206	7,716,752	682.44
Other	367	1,302,943	3,550	84,179,487	229,372	64.61
Total Offshore	**898**	**9,407,734**	**10,476**	**3,596,314,594**	**4,004,805**	**382.27**
Total Onshore	**36,275**	**166,881,855**	**4,600**	**9,956,188,251**	**274,464**	**59.66**
TOTAL U.S.	**37,173**	**176,289,589**	**4,742**	**13,552,402,845**	**364,577**	**76.88**
Exploratory Wells	**7,129**	**42,294,352**	**5,933**	**3,981,133,444**	**558,442**	**94.13**
Development Wells	**30,044**	**133,995,237**	**4,460**	**9,571,269,401**	**318,575**	**71.43**

Source: *Joint Association Survey on Drilling Costs*

Notes: Appalachia includes New York, Ohio, Pennsylvania and West Virginia.
1987 data are unavailable.

Cost Indices

	Oil Field Machinery	Oil Well Casing	Line Pipe (carbon)	Oil Field Wages
1973	30.3	29.4	33.4	40.6
1974	35.9	37.6	45.5	44.9
1975	44.6	46.6	54.7	50.9
1976	49.5	49.2	56.3	56.0
1977	53.8	53.9	62.5	60.6
1978	59.5	59.9	71.2	68.2
1979	65.8	63.0	72.8	74.3
1980	76.3	72.0	80.7	82.1
1981	91.1	89.8	94.6	91.3
1982	100.0	100.0	100.0	100.0
1983	97.4	90.2	97.5	104.8
1984	96.6	86.2	97.3	108.1
1985	96.8	86.0	97.2	112.7
1986	94.3	80.3	96.7	116.4
1987	93.3	81.6	97.3	118.9

Sources: Bureau of Labor Statistics
Wage index computed by IPAA

Drilling Costs

	Total Costs	Per Well	Per Foot
	(thous. $)	($)	
1965	2,407,437	60,648	13.44
1966	2,360,740	68,386	14.95
1967	2,299,178	72,902	15.97
1968	2,409,360	81,463	16.83
1969	2,610,671	88,554	17.56
1970	2,578,682	94,885	18.84
1971	2,371,492	94,703	19.03
1972	2,814,166	106,424	20.76
1973	3,074,532	117,152	22.50
1974	4,366,989	138,718	28.93
1975	6,571,214	177,793	36.99
1976	7,461,680	191,615	40.46
1977	9,956,453	229,181	46.82
1978	13,061,000	279,950	56.64
1979	16,078,930	331,367	67.71
1980	22,800,356	367,682	77.03
1981	36,665,457	453,691	94.30
1982	39,428,119	514,378	108.73
1983	25,104,543	371,721	83.34
1984	25,206,219	326,463	71.90
1985	23,696,603	349,399	75.35
1986	13,552,403	364,577	76.88

Source: *Joint Association Survey*
1987 data unavailable

Drilling Summary

	Oil Wells	Gas Well	Dry Holes	Total Wells
Number of Wells Drilled	18,198	7,351	11,624	37,173
Footage Drilled (thous. ft.)	75,847	41,324	59,118	176,290
Total Cost (mill. $)	5,184	3,844	4,524	13,552
Average Depth (ft.)	4,168	5,622	5,086	4,742
Average Cost per Well ($)	284,872	522,906	389,232	364,577
Average Cost per Foot ($)	68.35	93.02	76.53	76.88

Source: Joint Association Survey
1987 data unavailable

Notes: Data includes all costs incurred through Christmastree.
Totals may not add due to rounding.

Financial Statistics

	Rates of Return		Exploration and Development Outlays		
	Oil & Gas Companies	All Mfg. Companies	Larger Companies	Inde-pendents	Total Industry
	(%)		(mill. $)		
1960	8.8	9.2	2,412	1,788	4,200
1961	8.7	8.9	2,417	1,583	4,000
1962	8.8	9.8	2,848	1,577	4,425
1963	9.8	10.3	2,452	1,673	4,125
1964	10.1	11.6	2,817	1,633	4,450
1965	11.3	13.0	2,847	1,363	4,210
1966	12.3	13.4	2,990	1,260	4,250
1967	12.6	11.7	3,212	1,153	4,365
1968	12.2	12.1	4,087	1,303	5,390
1969	10.9	11.5	3,768	1,482	5,250
1970	9.9	9.3	3,119	1,656	4,775
1971	9.3	9.7	2,740	1,160	3,900
1972	9.6	10.6	4,225	2,255	6,480
1973	10.5	13.0	5,275	2,865	8,140
1974	14.6	14.9	8,550	3,805	12,355
1975	12.9	11.6	6,830	3,420	10,250
1976	15.2	13.9	8,646	5,864	14,510
1977	14.2	14.2	10,305	6,195	16,500
1978	13.8	15.0	11,275	8,025	19,300
1979	18.2	16.5	15,000	11,750	26,750
1980	18.1	14.1	20,553	15,647	36,200
1981	16.4	14.0	29,765	26,710	56,475
1982	12.8	9.2	30,000	25,400	55,400
1983	10.9	10.5	22,650	18,225	40,875
1984	8.7	12.5	22,050	19,400	41,450
1985	6.5	10.0	17,000*	16,000*	30,000*
1986	5.4	9.6	9,000*	8,000*	17,000*
1987	7.7	12.8	10,000*	8,000*	18,000*

Sources: Chase Manhattan Bank, Federal Trade Commission, and Department of Commerce

*Estimated by IPAA

Producing Wells

Producing Crude Oil Wells

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Alabama	630	514	669	692	719	741	759	810	844	875
Alaska	366	400	642	700	760	672	640	977	1,109	1,216
Arizona	31	35	32	35	36	34	31	28	24	23
Arkansas	7,553	7,698	8,104	8,249	8,629	8,370	9,490	9,700	10,047	8,398
California	44,999	44,674	45,591	47,362	47,231	47,197	48,541	49,874	43,717	45,694
Colorado	3,227	3,402	3,490	2,898	3,113	4,591	5,360	5,457	5,502	5,642
Florida	115	115	120	117	123	137	138	149	114	122
Illinois	23,869	24,067	24,745	26,100	27,600	28,967	30,045	31,100	32,025	32,307
Indiana	5,076	5,296	5,452	5,715	6,047	6,465	6,792	7,164	7,610	7,449
Kansas	43,258	47,379	47,457	42,402	46,189	49,348	49,198	51,888	48,816	48,051
Kentucky	14,149	14,097	14,517	14,585	15,109	15,562	19,980	21,844	22,639	22,974
Louisiana	24,500	24,767	26,014	25,320	22,380	23,376	24,508	26,354	29,921	29,758
Michigan	3,890	3,890	4,109	4,417	4,536	4,913	4,881	5,143	4,885	4,996
Mississippi	2,254	2,556	2,631	3,154	2,640	2,727	2,562	3,468	2,235	2,143
Missouri	161	188	258	421	499	552	557	581	450	200
Montana	3,275	3,573	3,628	3,968	4,311	4,675	4,201	4,196	3,933	4,050
Nebraska	1,455	1,535	1,679	1,870	2,006	2,100	2,095	2,091	1,838	1,852
Nevada	25	26	25	28	31	34	37	45	29	35
New Mexico	14,398	15,045	15,746	16,289	16,526	17,409	18,146	18,697	18,409	18,401
New York	4,900	4,800	5,000	5,300	5,320	5,432	4,678	4,811	4,632	4,428
North Dakota	1,732	1,908	2,290	2,570	2,870	3,734	3,404	3,697	3,543	3,474
Ohio	18,097	19,177	20,451	22,441	24,752	26,287	26,878	27,975	29,937	30,013
Oklahoma	74,870	76,505	78,463	82,639	91,745	95,868	99,600	102,342	100,261	101,745
Pennsylvania	28,400	27,768	27,925	26,138	25,285	24,657	20,739	24,000	20,000	14,271
South Dakota	N A	88	118	120	130	140	138	165	148	149
Tennessee	279	338	441	489	650	693	775	798	806	648
Texas	165,817	168,123	174,511	180,627	187,626	195,595	203,664	209,040	201,272	198,163
Utah	1,291	1,346	1,478	1,543	1,583	1,634	1,799	1,944	1,858	1,785
West Virginia	14,100	14,225	14,425	14,700	14,900	15,300	15,475	15,895	15,750	15,850
Wyoming	10,011	10,059	10,227	11,574	11,792	11,349	11,561	12,038	11,879	10,953
Federal Waters	3,429	3,259	3,266	4,535	4,985	4,710	4,104	4,327	4,425	4,487
Other	81	2	6	11	19	21	31	28	32	29
TOTAL U.S.	**516,238**	**526,855**	**543,510**	**557,009**	**580,142**	**603,290**	**620,807**	**646,626**	**628,690**	**620,181**

Source: *World Oil*

Notes: Data include wells on artificial lift and flowing.
Figures quoted as of December 31st each year.

Producing Natural Gas Wells

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Alabama	170	264	262	309	461	540	664	822	976	1,100
Alaska	65	56	54	120	123	103	78	81	103	87
Arkansas	1,143	1,200	1,188	1,337	1,679	1,850	2,371	2,550	2,719	2,847
California	854	838	905	1,154	1,050	1,082	1,168	1,319	1,285	1,293
Colorado	2,169	2,444	2,650	3,988	3,667	4,072	3,663	4,529	3,573	3,948
Illinois	30	51	58	70	60	67	157	190	217	238
Indiana	596	631	655	698	720	736	1,194	1,220	1,289	808
Kansas	9,450	10,351	10,544	11,014	11,254	11,494	11,503	11,776	11,485	11,280
Kentucky	7,776	7,765	7,992	8,033	8,084	8,234	9,013	9,515	9,926	10,493
Louisiana	10,135	10,848	11,486	12,763	13,503	13,894	14,238	14,423	16,479	16,647
Michigan	376	376	423	667	667	539	749	755	740	670
Mississippi	402	431	458	570	520	525	671	690	555	749
Montana	1,377	1,881	2,150	2,142	2,069	2,043	2,088	2,033	1,818	2,100
Nebraska	22	23	22	26	22	24	21	NA	NA	NA
New Mexico	12,027	12,922	13,843	14,968	16,025	16,214	16,401	23,627	22,362	23,413
New York	1,900	2,200	2,200	2,500	2,650	2,969	3,800	4,324	4,927	5,180
North Dakota	23	22	52	51	66	123	90	98	103	103
Ohio	13,643	15,271	16,845	18,619	21,070	24,621	27,846	32,148	32,745	33,369
Oklahoma	12,525	14,062	15,245	16,994	20,742	22,135	23,647	24,756	25,734	26,595
Pennsylvania	17,900	18,900	19,700	20,526	21,500	23,000	24,000	24,000	26,500	26,000
South Dakota	0	0	10	39	37	40	40	42	44	52
Tennessee	60	143	200	210	360	415	726	820	788	790
Texas	33,324	36,240	37,819	39,575	42,295	43,395	44,834	46,615	46,442	45,552
Utah	171	182	200	226	282	322	659	655	411	497
Virginia	223	268	274	274	290	292	499	581	562	685
West Virginia	23,575	24,425	25,600	26,925	28,350	29,675	30,700	32,500	33,150	33,950
Wyoming	888	1,007	1,504	1,888	1,889	1,919	1,933	2,161	2,084	2,104
Federal Waters	2,818	2,863	2,853	3,907	4,200	4,000	3,552	3,483	3,404	3,213
Other	13	19	21	16	28	31	228	52	89	93
TOTAL U.S.	**153,655**	**165,683**	**175,213**	**189,609**	**203,663**	**214,354**	**226,077**	**245,765**	**250,510**	**253,856**

Source: *World Oil*

Notes: Data include natural gas distillate wells.
Figures quoted as of December 31st each year.

Production

Crude Oil Production

(thous. bbls.)	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Alabama	19,829	19,161	22,153	20,680	20,014	18,746	19,804	21,581	21,122	20,607
Alaska	448,620	511,335	591,646	587,337	618,910	625,527	630,401	666,233	681,310	715,955
Arizona	418	472	406	357	335	237	215	175	161	131
Arkansas	20,329	18,869	18,210	18,352	18,849	18,849	18,730	19,044	15,778	14,230
California	347,181	352,268	356,923	384,958	401,572	404,688	412,020	423,877	406,665	395,698
Colorado	36,797	32,324	29,802	30,303	30,545	29,050	28,845	30,246	29,309	28,802
Florida	47,536	47,168	42,886	34,773	25,626	19,476	14,462	11,458	9,383	8,270
Illinois	23,362	21,793	22,702	24,090	27,710	29,200	28,868	30,265	27,245	23,980
Indiana	4,689	4,715	4,978	4,721	5,563	5,321	5,526	5,168	4,759	3,738
Kansas	56,586	56,995	60,151	65,810	70,525	71,594	75,729	75,407	67,034	59,884
Kentucky	5,724	5,514	5,946	6,548	7,349	7,886	7,777	7,790	6,475	5,743
Louisiana	532,740	489,687	469,141	449,315	458,395	479,569	515,268	508,239	512,108	485,543
Michigan	34,667	34,862	33,808	32,665	31,462	31,736	30,554	27,300	25,688	25,972
Mississippi	42,024	37,327	35,945	34,204	33,047	31,455	32,776	30,641	29,997	28,103
Missouri	54	91	130	226	202	269	285	243	110	110
Montana	30,467	29,957	29,584	30,813	30,921	29,225	29,761	29,768	27,072	25,059
Nebraska	5,862	6,068	6,240	6,671	6,872	6,380	6,452	6,943	7,098	6,091
Nevada	1,156	1,235	880	700	613	810	1,907	3,039	2,907	3,112
New Mexico	83,365	79,649	75,324	71,568	71,024	75,169	79,336	78,530	75,712	72,328
New York	852	855	824	841	834	831	840	1,071	853	710
North Dakota	24,812	30,914	40,337	45,424	47,271	50,690	52,652	50,857	45,628	41,351
Ohio	11,154	11,953	12,928	13,551	14,571	14,971	15,271	14,988	13,442	12,153
Oklahoma	150,456	143,642	150,140	154,056	158,621	158,604	168,385	162,739	149,105	134,378
Pennsylvania	2,887	2,874	2,651	3,729	4,282	4,282	4,284	4,851	3,783	3,302
South Dakota	869	846	765	973	1,158	1,172	1,340	1,596	1,586	1,644
Tennessee	593	614	743	918	1,132	1,056	920	786	644	614
Texas	1,074,050	1,018,094	977,436	945,132	925,296	902,676	904,774	888,831	839,606	775,963
Utah	31,368	27,728	24,978	25,860	22,440	29,534	34,689	40,792	39,172	35,788
Virginia	2	4	10	13	49	65	32	26	18	17
West Virginia	2,382	2,406	2,336	3,473	3,227	3,628	3,524	3,555	3,145	2,835
Wyoming	137,385	131,890	126,362	130,563	118,300	118,303	124,269	128,514	121,337	115,267
TOTAL U.S.	**3,178,216**	**3,121,310**	**3,146,365**	**3,128,624**	**3,156,715**	**3,170,999**	**3,249,696**	**3,274,553**	**3,168,252**	**3,047,378**
DAILY AVG.	**8,707**	**8,552**	**8,597**	**8,572**	**8,649**	**8,688**	**8,879**	**8,971**	**8,680**	**8,349**

Source: Energy Information Administration

Note: Data include lease condensate.

Natural Gas Production

(MMcf)	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Alabama	85,599	85,815	65,294	79,244	75,003	90,801	101,821	107,342	107,184	116,618
Alaska	203,088	220,754	230,588	242,564	264,364	276,691	289,129	321,346	304,841	359,743
Arizona	286	247	214	187	99	132	45	85	63	80*
Arkansas	106,792	109,452	111,808	92,986	124,611	127,561	135,161	155,099	131,075	131,821
California	311,084	248,206	309,783	380,730	383,977	415,324	476,333	491,283	462,218	427,935
Colorado	183,693	191,239	188,001	195,706	209,892	163,545	173,257	178,233	163,684	158,796
Florida	51,595	50,190	40,638	32,470	22,515	21,056	12,585	10,545	8,833	8,430
Illinois	1,159	1,585	1,574	1,295	1,162	1,030	1,530	1,324	1,887	2975*
Indiana	163	350	463	330	233	135	394	367	365	500*
Kansas	854,484	797,762	735,035	640,114	429,597	434,736	465,979	512,872	465,695	394,906
Kentucky	70,044	59,520	57,180	61,312	51,924	46,720	61,518	73,126	80,195	88500*
Louisiana	7,476,497	7,266,217	6,639,416	6,780,184	6,171,627	5,332,113	5,825,055	5,013,702	4,895,394	5,080,366
Maryland	88	28	68	56	36	31	60	39	20	25*
Michigan	148,047	159,731	158,302	152,593	153,051	138,910	144,537	131,855	127,287	161,629
Mississippi	106,579	144,077	175,061	181,238	167,231	151,204	157,911	144,172	140,833	138,642
Missouri	0	0	0	0	0	0	4	4	4	5*
Montana	46,522	53,888	51,867	56,565	56,517	51,967	51,474	52,494	46,592	45,657
Nebraska	2,882	3,208	2,550	2,519	2,280	2,091	2,300	1,944	1,403	1900*
New Mexico	1,174,198	1,181,363	1,149,781	1,134,078	991,178	895,279	957,366	905,272	702,614	818,537
New York	13,900	15,500	15,643	16,074	15,877	17,836	25,200	31,561	29,964	36200*
North Dakota	30,499	18,468	42,346	42,573	53,818	69,319	70,496	72,633	55,098	62,836
Ohio	114,098	123,431	138,856	141,134	138,391	151,300	186,480	182,245	182,072	191990*
Oklahoma	1,773,582	1,835,366	1,891,824	2,019,199	1,934,412	1,730,061	1,985,869	1,936,341	1,917,493	1,950,016
Oregon	0	2,000	5,000	5,000	3,399	3,159	2,790	4,080	4,600	7000*
Pennsylvania	97,763	96,313	97,439	122,454	121,111	118,372	166,342	150,234	159,889	171500*
South Dakota	0	914	1,193	1,155	2,331	1,846	1,947	2,558	2,231	2900*
Tennessee	468	941	1,241	1,719	2,976	3,950	5,022	4,686	3,464	4500*
Texas	6,548,184	7,174,623	7,115,889	6,910,021	6,468,817	5,938,561	6,185,021	6,052,663	6,151,775	3,063,237
Utah	58,416	58,605	87,766	91,191	94,255	63,158	74,698	83,405	90,013	92,861
Virginia	8,492	8,544	7,812	8,903	6,880	4,346	8,901	15,041	15,427	23225*
West Virginia	148,564	150,505	156,551	161,251	150,850	130,078	143,730	144,883	135,431	115,856
Wyoming	357,267	414,416	409,541	410,499	424,657	443,988	516,683	416,565	403,266	491,300
TOTAL U.S.	**19,974,033**	**20,473,258**	**19,888,724**	**19,965,344**	**18,523,071**	**16,825,300**	**18,229,638**	**17,197,999**	**16,790,910**	**16,619,186**

Source: Energy Information Administration
*Estimated by IPAA

Notes: Data represent marketed production
All 1986 figures are revised

Stripper Wells

Stripper Well Production

(thous. bbls.)	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Alabama	139	121	144	125	122	158	173	172	189	191
Arizona	7	5	5	16	23	24	26	29	28	25
Arkansas	6,172	7,754	7,231	5,690	5,465	5,132	7,118	5,653	5,286	5,114
California	51,410	49,558	45,521	44,110	54,804	55,419	55,993	57,125	41,573	37,182
Colorado	2,017	2,018	1,955	1,989	2,159	2,204	3,630	3,330	2,682	6,216
Illinois	23,614	21,160	20,325	20,167	22,238	23,989	25,889	25,984	27,719	24,157
Indiana	5,255	4,560	4,557	4,019	4,781	4,568	4,336	4,401	4,104	3,827
Kansas	44,190	44,461	43,948	44,545	45,010	47,629	48,257	48,665	50,861	61,435
Kentucky	5,421	4,713	4,549	4,573	4,479	5,144	5,522	6,630	6,696	5,514
Louisiana	7,740	7,916	7,681	7,657	9,012	9,172	9,000	9,844	9,000	10,059
Michigan	6,233	5,602	5,621	4,717	2,449	2,820	3,145	3,228	3,272	2,782
Mississippi	1,349	1,234	1,601	1,890	3,805	2,237	1,286	1,330	1,721	1,121
Missouri	60	53	54	127	226	53	271	271	250	182
Montana	3,255	2,805	2,830	2,710	2,748	2,881	3,104	2,577	2,937	2,709
Nebraska	2,012	2,025	1,866	2,237	2,510	2,879	3,418	2,974	2,947	2,617
Nevada	0	0	0	0	0	9	0	0	0	0
New Mexico	11,547	11,831	12,068	12,924	13,463	14,207	14,722	15,016	15,367	14,747
New York	813	852	855	824	849	719	774	680	601	489
North Dakota	1,146	1,197	1,250	1,225	1,386	1,493	1,537	1,756	1,905	1,693
Ohio	7,251	7,808	8,367	9,050	9,486	10,199	10,480	10,690	10,491	9,767
Oklahoma	74,400	74,175	76,001	79,945	83,249	94,237	94,430	94,046	91,842	95,903
Pennsylvania	2,659	2,565	2,817	2,651	3,606	3,718	3,951	4,242	4,257	3,356
South Dakota	15	17	22	25	39	55	44	82	65	34
Tennessee	194	270	388	293	291	N/A	584	510	451	475
Texas	127,886	131,211	136,590	141,825	145,940	143,929	153,689	152,720	158,738	147,986
Utah	136	135	180	220	377	N/A	543	1,089	1,550	878
Virginia	2	2	4	10	13	49	22	27	21	14
West Virginia	2,384	2,255	2,382	2,313	2,607	2,683	3,116	3,270	3,346	2,988
Wyoming	5,225	5,333	5,597	5,211	5,367	6,355	6,944	7,119	7,983	7,984
TOTAL U.S.	**392,532**	**391,633**	**394,405**	**401,095**	**426,502**	**441,951**	**462,013**	**463,459**	**455,882**	**449,446**

Sources: Interstate Oil Compact Commission and National Stripper Well Association

Notes: 1987 data are unavailable.
Totals may not add due to rounding.

Producing Stripper Wells

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Alabama	78	69	78	68	73	92	95	98	100	124
Arizona	7	7	8	10	12	14	17	14	14	16
Arkansas	6,736	6,822	6,767	6,820	5,847	5,167	7,218	4,738	4,942	4,416
California	28,328	24,198	25,957	25,400	26,566	26,354	26,358	26,650	29,230	29,044
Colorado	990	1,016	1,074	1,143	1,255	1,354	1,861	1,690	1,798	4,269
Illinois	23,499	23,622	23,860	24,501	25,472	26,813	28,566	29,942	30,593	31,649
Indiana	5,056	5,038	5,092	5,022	5,874	5,353	5,854	6,134	5,457	5,165
Kansas	42,273	43,154	44,686	41,876	42,924	44,521	47,592	45,749	48,235	50,182
Kentucky	14,046	13,953	14,028	14,075	14,130	14,275	17,000	16,433	17,674	17,992
Louisiana	13,189	13,600	12,131	15,889	15,950	12,010	16,500	16,500	16,000	15,500
Michigan	3,276	3,331	3,405	3,325	3,057	3,361	3,367	3,500	3,475	3,285
Mississippi	654	657	813	1,523	2,138	1,923	837	837	811	681
Missouri	161	144	157	301	440	530	548	548	429	388
Montana	1,945	1,983	1,996	2,082	2,058	2,243	2,673	3,085	3,376	3,493
Nebraska	919	987	1,037	1,223	1,414	1,585	1,672	1,707	1,716	1,637
Nevada	0	0	0	4	0	0	0	0	0	0
New Mexico	10,956	11,401	11,829	12,519	13,226	13,882	14,280	14,749	15,199	14,466
New York	4,913	4,700	5,000	5,220	5,345	5,259	4,228	4,532	4,448	4,309
North Dakota	687	741	782	878	836	959	922	1,016	1,091	1,106
Ohio	16,122	17,006	18,222	19,650	21,982	22,966	24,263	25,129	26,412	28,652
Oklahoma	56,239	59,971	64,893	66,128	69,781	73,328	77,729	82,431	83,034	84,425
Pennsylvania	28,400	27,768	27,925	25,991	25,285	23,438	21,831	19,540	11,877	14,271
South Dakota	16	11	10	12	23	33	33	30	24	17
Tennessee	213	265	318	387	398	N/A	716	689	952	848
Texas	92,887	96,713	98,487	103,594	107,596	111,671	117,178	126,202	130,311	123,796
Utah	74	95	106	125	196	N/A	217	348	519	853
Virginia	4	5	7	8	12	20	26	32	30	49
West Virginia	13,875	13,925	14,000	14,150	14,300	14,550	14,900	15,200	15,500	15,800
Wyoming	3,387	3,453	3,642	3,252	3,349	4,792	5,020	5,020	5,200	3,996
TOTAL U.S.	**368,930**	**374,635**	**386,310**	**395,176**	**409,539**	**416,493**	**441,501**	**452,543**	**458,447**	**460,429**

Sources: Interstate Oil Compact Commission and National Stripper Well Association

Notes: 1987 data are unavailable
Figures quoted as of December 31st each year

Prices

Crude Oil Wellhead Prices

($ bbl.)	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Alabama	10.52	11.97	20.57	35.80	32.32	30.07	29.39	25.77	13.91	16.76
Alaska	6.02	10.74	15.63	23.60	20.08	17.92	18.13	17.12	6.71	10.95
Arizona	5.92	8.29	12.30 *	24.00 *	31.00 *	30.00 *	28.00 *	27.00 *	15.15 *	17.35 *
Arkansas	10.63	14.72	24.17	33.69	30.12	28.28	28.15	25.79	14.54	17.23
California	8.58	12.78	23.87	26.80	24.58	22.61	22.09	22.14	11.90	13.91
Colorado	10.84	13.28	22.91	35.69	31.56	28.92	28.09	25.64	13.98	17.71
Florida	12.00	13.07	18.84	25.00 *	32.00 *	31.10 *	31.00 *	29.00 *	23.13 *	16.05 *
Illinois	13.81	23.49	35.78	36.03	31.69	29.12	28.76	26.90	14.70	17.53
Indiana	13.70	23.28	35.91	36.07	31.66	29.06	28.72	26.82	14.55	17.49
Kansas	13.20	21.57	34.20	35.80	30.79	28.45	27.99	25.33	14.02	17.37
Kentucky	13.73	22.55	34.98	35.90	31.19	28.60	28.24	26.20	14.20	17.19
Louisiana	9.03	11.42	19.87	35.45	32.44	30.02	29.67	27.22	15.32	17.97
Michigan	11.86	14.47	23.54	35.74	31.80	28.93	28.54	26.16	14.61	17.63
Mississippi	7.91	10.74	20.85	30.47	29.04	26.76	27.26	25.51	13.63	16.78
Missouri	12.25 *	25.68 *	37.75 *	34.38 *	31.25 *	31.20 *	27.50 *	25.00 *	15.25 *	17.25*
Montana	9.04	12.03	20.53	34.69	31.25	28.80	28.07	25.29	13.58	16.57
Nebraska	11.40	18.13	30.60	35.32	30.98	28.58	27.83	25.42	13.70	17.07
Nevada	12.00 *	11.54 *	16.65 *	23.96 *	23.95 *	23.80 *	25.80 *	26.00 *	12.00 *	11.50*
New Mexico	10.17	14.33	24.06	35.04	31.82	29.26	28.69	26.84	14.93	17.58
New York	14.74	23.78	37.39	34.15	30.91	28.19	27.70	25.19	16.03	17.40
North Dakota	9.75	13.64	26.42	35.63	31.89	29.27	28.39	25.32	13.54	16.74
Ohio	13.80	22.79	36.64	36.11	30.90	28.14	27.71	25.11	15.51	17.42
Oklahoma	11.30	17.53	29.25	35.43	32.04	29.67	29.11	26.28	14.47	17.62
Pennsylvania	14.72	24.13	37.46	36.03	30.77	28.28	27.71	25.05	15.77	17.43
South Dakota	12.16	15.35	28.81	35.55	31.63	29.10	28.36	25.79	13.81	16.96
Tennessee	12.70	20.26	34.29	33.00 *	32.10 *	32.00 *	28.00 *	26.00 *	15.00 *	15.84 *
Texas	9.29	12.65	21.84	35.06	31.77	29.35	28.87	26.80	14.73	17.54
Utah	9.98	11.41	19.79	34.14	30.50	28.12	27.21	23.98	13.33	17.25
Virginia	12.50 *	24.80 *	37.21 *	36.25 *	32.35 *	32.25 *	27.28 *	24.75 *	15.00 *	15.75*
West Virginia	14.48	23.35	36.92	35.63	29.98	27.27	26.90	24.35	14.68	16.56
Wyoming	9.16	11.73	21.34	32.30	29.37	27.19	26.73	24.67	12.94	16.44
TOTAL U.S.	**9.00**	**12.64**	**21.59**	**31.77**	**28.52**	**26.19**	**25.88**	**24.09**	**12.51**	**15.41**

Source: Energy Information Administration
* Estimated by IPAA

Note: Data represent average first purchase prices of crude oil at the lease or wellhead.

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Refiner Acquisition Cost of Crude Oil

($/bbl.)	Domestic	Imported	Composite
1968	3.21	2.90	3.17
1969	3.37	2.80	3.29
1970	3.46	2.96	3.40
1971	3.68	3.17	3.60
1972	3.67	3.22	3.58
1973	4.17	4.08	4.15
1974	7.18	12.52	9.07
1975	8.39	13.93	10.38
1976	8.84	13.48	10.89
1977	9.55	14.53	11.96
1978	10.61	14.57	12.46
1979	14.27	21.67	17.72
1980	24.23	33.89	28.07
1981	34.33	37.05	35.24
1982	31.22	33.55	31.87
1983	28.87	29.30	28.99
1984	28.53	28.88	28.63
1985	26.66	26.99	26.75
1986	14.82	14.00	14.55
1987	17.77	18.16	17.91

Source: Energy Information Administration

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Natural Gas Wellhead Prices

($/Mcf)	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Alabama	1.50	2.04	3.19	4.77	3.44	4.28	3.73	3.71	2.89	2.75
Alaska	.52	.52	.73	.62	.63	.73	.73	.74	.50	1.19
Arizona	.37	.41	1.15	1.85	2.59	3.08	2.90	2.80*	2.15*	1.75
Arkansas	.75	.96	.70	1.81	2.13	2.29	2.54	2.55	2.51	2.00
California	1.36	1.71	2.17	2.57	3.09	3.57	3.80	3.36	2.89	1.69
Colorado	.84	1.41	1.47	1.97	3.17	3.38	3.43	2.90	2.05	1.76
Florida	1.39	1.57	1.73	2.71	2.46	2.33	2.57	2.43	1.20	1.92
Illinois	1.29	1.86	1.90	2.47	2.62	2.84	2.78	2.77	2.57	2.24
Indiana	.71	1.05	1.35	2.08	1.55	2.09	3.38	2.51	1.23	1.71
Kansas	.57	.76	.77	.92	1.51	1.57	1.49	1.27	1.21	1.15
Kentucky	.58	.95	.89	1.01	1.52	1.51	1.70	2.39	1.88	1.82
Louisiana	.84	1.12	1.61	2.07	2.60	2.67	2.73	2.66	2.21	1.61
Maryland	.61	1.04	.46	.48	.78	.55	.55	.59	.65	.55
Michigan	1.20	1.74	2.36	2.86	3.19	3.58	3.76	3.60	3.60	3.20
Mississippi	1.15	1.60	2.32	3.21	3.91	3.78	3.47	3.17	2.13	1.97
Missouri	.60*	1.35*	2.00*	2.50*	3.00*	3.45*	3.75	3.50	3.75	3.75
Montana	.85	1.21	1.45	1.91	2.15	2.41	2.46	2.39	2.05	1.80
Nebraska	.68	.85	.83	1.45	1.99	2.93	2.24	3.01	2.82	2.42
New Mexico	.99	1.37	1.76	2.13	2.47	2.68	2.71	2.62	1.87	1.67
New York	1.19	1.27	1.95	2.67	3.75	3.85	4.00	3.37	3.39	2.00
North Dakota	.46	1.28	1.19	1.94	2.30	2.27	2.26	1.90	1.35	1.30
Ohio	1.57	1.81	1.98	2.17	2.71	3.24	3.19	3.08	2.84	2.56
Oklahoma	.90	1.12	1.51	1.88	2.74	2.83	2.72	2.47	1.71	1.46
Oregon	1.50*	2.13	2.40	2.60	3.33	3.33	2.78	2.40	2.00	1.45
Pennsylvania	.86	1.33	2.13	2.33	2.80	3.00	3.25	3.16	2.50	2.25
South Dakota	1.35*	2.11	2.45	2.75	3.08	3.37	3.67	2.51	2.46	2.69
Tennessee	1.64	1.70	1.76	2.55	3.00	2.50	3.50	2.48	1.78	1.31
Texas	1.00	1.23	1.57	1.87	2.17	2.36	2.45	2.33	1.65	1.51
Utah	.64	.72	1.12	1.10	3.06	3.40	4.08	3.52	2.90	1.88
Virginia	1.31	1.68	2.85	2.15	3.69	3.30	3.00	3.02	2.45	2.25
West Virginia	.66	1.05	3.00	3.00	3.20	3.10	3.45	3.85	3.90	3.85
Wyoming	.79	1.13	1.92	2.77	3.22	3.18	3.32	3.01	2.52	1.76
TOTAL U.S.	**.91**	**1.18**	**1.59**	**1.98**	**2.46**	**2.59**	**2.66**	**2.51**	**1.94**	**1.71**

Source: Energy Information Administration
* Estimated by IPAA

Note: All 1987 prices are estimated by IPAA.

Employment Summary

(thous.)	Oil & Gas Extraction	Total Refining	Transportation	Wholesale Products	Retail Stations	TOTAL INDUSTRY	Oil & Gas Services
1965	287.1	158.0	173.1	219.1	521.9	1,359.2	130.5
1966	281.8	158.4	172.1	220.4	538.4	1,371.1	129.2
1967	275.8	158.4	174.6	221.9	565.9	1,396.6	126.2
1968	275.6	160.7	176.9	223.2	585.8	1,422.2	127.5
1969	279.9	155.5	177.4	223.8	606.4	1,443.0	134.1
1970	270.1	164.7	178.8	224.5	613.3	1,451.4	125.2
1971	264.2	164.0	175.8	225.0	619.0	1,448.0	119.4
1972	267.9	162.8	177.4	225.2	648.9	1,482.2	124.5
1973	273.9	160.3	179.5	220.8	651.4	1,485.9	134.6
1974	300.2	164.6	180.5	216.8	590.4	1,452.5	155.6
1975	328.8	164.0	179.4	227.5	622.2	1,521.9	173.5
1976	345.7	167.7	177.0	232.0	625.8	1,548.2	184.3
1977	381.4	170.7	177.3	229.7	628.7	1,587.8	209.2
1978	429.3	175.4	183.1	229.4	628.0	1,645.2	239.0
1979	474.2	177.3	187.2	225.4	576.9	1,641.0	276.0
1980	559.7	167.0	189.3	223.9	560.8	1,700.7	333.8
1981	692.1	185.1	195.8	231.5	562.2	1,866.7	430.2
1982	708.3	175.8	198.2	222.6	559.0	1,863.9	434.5
1983	597.8	169.2	193.6	210.9	556.2	1,727.7	333.2
1984	606.5	162.2	192.3	208.3	574.7	1,744.0	345.6
1985	582.9	152.4	193.5	205.9	588.5	1,723.2	329.4
1986	450.5	140.8	186.6	200.5	596.0	1,574.4	226.2
1987	405.2	135.0	183.9	198.4	609.6	1,532.1	200.7

Sources: Bureau of Labor Statistics and IPAA

Retail Gasoline Prices

(c/gal.)	Excluding Taxes	Taxes	Pump Price
1970	23.08	11.58	34.66
1971	23.88	10.94	34.82
1972	24.31	11.13	35.44
1973	26.93	11.20	38.13
1974	40.40	11.30	51.70
1975	45.67	11.31	56.98
1976	47.48	11.45	58.93
1977	50.82	11.52	62.34
1978	53.06	11.57	64.63
1979	73.38	11.71	85.09
1980	107.07	11.83	118.90
1981	119.91	13.01	132.92
1982	111.29	14.23	125.52
1983	102.69	19.19	121.88
1984	99.57	21.14	120.71
1985	93.91	21.86	115.77
1986	69.57	22.10	91.67
1987	72.12	23.28	95.40

Source: *Oil and Gas Journal*
Note: Motor gasoline prices represent regular leaded prior to 1985, and regular unleaded thereafter.

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Wholesale Prices—Total U.S.

	Motor Gasoline	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Average of Four Products		Crude Oil
	(c/gal.)				(c/gal.)	($/bbl.)	($/bbl.)
1935	5.42	4.10	3.26	1.74	3.93	1.65	0.97
1936	6.32	3.94	3.39	1.81	4.41	1.85	1.09
1937	6.68	4.81	3.96	2.08	4.80	2.02	1.17
1938	5.97	4.57	3.62	1.55	4.22	1.77	1.14
1939	5.79	4.16	3.34	1.50	4.06	1.71	1.04
1940	5.26	4.36	3.55	1.74	3.91	1.64	1.02
1941	6.05	4.40	3.67	2.05	4.41	1.85	1.14
1942	6.14	4.56	3.91	2.18	4.54	1.91	1.20
1943	6.32	4.72	4.09	2.34	4.71	1.98	1.20
1944	6.47	4.78	4.34	2.49	4.87	2.05	1.20
1945	6.48	5.18	5.33	2.60	4.93	2.07	1.20
1946	6.60	5.70	5.06	3.05	5.26	2.21	1.39
1947	8.57	7.28	6.51	4.31	6.92	2.91	1.93
1948	10.53	9.92	8.94	5.72	8.81	3.70	2.60
1949	10.71	9.11	7.72	3.31	7.96	3.34	2.54
1950	10.86	9.39	7.97	3.98	8.29	3.48	2.51
1951	11.40	9.85	8.50	4.42	8.79	3.69	2.53
1952	11.38	9.90	8.52	3.84	8.62	3.62	2.53
1953	12.01	10.23	8.83	3.73	8.96	3.76	2.68
1954	11.66	10.40	8.94	3.97	8.88	3.73	2.78
1955	11.62	10.53	9.08	4.53	9.06	3.81	2.77
1956	11.75	10.99	9.45	5.30	9.43	3.96	2.79
1957	12.34	11.54	10.05	6.15	10.10	4.24	3.09
1958	11.74	10.96	9.39	4.82	9.27	3.89	3.01
1959	11.64	11.26	9.31	4.79	9.22	3.87	2.90
1960	11.61	11.17	8.79	4.88	9.15	3.84	2.88
1961	11.62	11.49	9.10	4.85	9.21	3.87	2.89
1962	11.52	11.42	9.11	4.78	9.13	3.84	2.90
1963	11.35	11.51	9.18	4.61	9.01	3.79	2.89
1964	11.27	10.93	8.65	4.50	8.83	3.71	2.88
1965	11.52	11.28	9.04	4.81	9.12	3.83	2.86
1966	11.59	11.49	9.09	4.73	9.15	3.84	2.88
1967	11.84	11.96	9.71	4.53	9.33	3.92	2.92
1968	11.55	12.03	9.84	4.30	9.14	3.84	2.94
1969	11.80	11.98	10.06	4.20	9.27	3.89	3.09
1970	12.33	12.43	10.45	6.14	10.20	4.28	3.18
1971	12.70	12.90	10.75	7.76	10.94	4.59	3.39
1972	12.70	12.87	10.61	7.60	10.87	4.57	3.39
1973	14.72	14.08	12.61	8.45	12.49	5.25	3.89
1974	25.53	24.02	22.57	20.43	23.48	9.86	6.87
1975	30.27	27.41	26.09	22.03	27.03	11.35	7.67
1976	33.82	31.67	30.38	21.66	29.55	12.41	8.19
1977	36.99	35.81	34.41	25.87	33.21	13.95	8.57
1978	39.22	37.23	35.66	23.00	33.72	14.16	9.00
1979	56.84	56.60	54.47	33.63	49.50	20.79	12.64
1980	87.40	80.26	78.21	44.43	72.77	30.56	21.59
1981	101.63	101.03	97.20	61.17	88.75	37.28	31.77
1982	94.56	97.18	91.95	57.80	83.27	34.97	28.52
1983	86.97	85.12	80.05	57.30	76.94	32.31	26.19
1984	81.14	84.75	79.62	59.14	74.49	31.29	25.88
1985	81.11	81.69	76.66	56.41	73.06	30.69	24.09
1986	47.74	49.92	44.91	36.23	43.97	18.47	12.51
1987	53.22	56.75	52.25	45.36	50.89	21.37	15.41

Sources: Product prices from IPAA
Crude oil wellhead prices from Energy Information Administration data

Notes: Data reflect price trends only, not actual sale prices.
Motor gasoline prices represent leaded fuel prior to 1982, and unleaded thereafter

Wholesale Prices—East of California

	Motor Gasoline	Kerosene	Distillate Fuel Oil	Residual Fuel Oil	Average of Four Products		Crude Oil
	(c/gal.)				(c/gal.)	($/bbl.)	($/bbl.)
1935	5.45	4.12	3.37	1.79	3.97	1.67	1.00
1936	6.12	4.01	3.52	1.86	4.35	1.83	1.11
1937	6.23	4.76	4.07	2.19	4.62	1.94	1.21
1938	5.45	4.39	3.78	1.62	4.00	1.68	1.17
1939	5.29	3.99	3.55	1.57	3.85	1.62	1.04
1940	4.96	4.33	3.80	1.90	3.84	1.61	1.04
1941	5.97	4.38	3.90	2.19	4.45	1.87	1.17
1942	6.28	4.57	4.17	2.26	4.67	1.96	1.23
1943	6.41	4.69	4.19	2.31	4.76	2.00	1.23
1944	6.42	4.73	4.17	2.46	4.81	2.02	1.23
1945	6.36	4.72	4.16	2.59	4.81	2.02	1.23
1946	6.40	5.38	4.84	3.08	5.12	2.15	1.43
1947	8.45	7.14	6.44	4.48	6.89	2.89	1.97
1948	10.21	9.62	8.94	5.90	8.70	3.65	2.63
1949	10.39	8.36	7.34	3.10	7.64	3.21	2.60
1950	10.77	8.76	7.79	4.10	8.22	3.45	2.59
1951	11.26	9.31	8.43	4.47	8.70	3.65	2.58
1952	11.25	9.38	8.40	3.76	8.48	3.56	2.58
1953	11.79	9.40	8.45	3.59	8.71	3.66	2.71
1954	11.43	9.55	8.71	3.92	8.68	3.64	2.82
1955	11.42	9.76	9.02	4.66	8.95	3.76	2.81
1956	11.55	10.26	9.48	5.34	9.31	3.91	2.82
1957	12.06	10.64	9.95	6.03	9.86	4.14	3.09
1958	11.61	9.87	9.12	4.56	9.03	3.79	3.03
1959	11.57	10.14	9.36	4.70	9.11	3.83	2.95
1960	11.69	10.01	8.93	4.86	9.14	3.84	2.94
1961	11.72	10.41	9.31	4.82	9.22	3.87	2.95
1962	11.55	10.34	9.27	4.67	9.08	3.82	2.96
1963	11.33	10.44	9.32	4.57	8.96	3.76	2.95
1964	11.29	9.71	8.62	4.56	8.79	3.69	2.93
1965	11.56	10.15	9.00	4.82	9.08	3.81	2.93
1966	11.55	10.41	9.13	4.72	9.08	3.81	2.95
1967	11.76	11.00	9.74	4.55	9.26	3.89	3.00
1968	11.50	11.09	9.81	4.33	9.08	3.81	3.02
1969	11.82	11.03	9.89	4.34	9.25	3.88	3.18
1970	12.57	11.59	10.32	6.35	10.32	4.33	3.26
1971	12.81	12.18	10.66	7.55	10.88	4.57	3.47
1972	12.75	12.14	10.58	7.36	10.78	4.53	3.47
1973	14.83	13.64	12.47	8.48	12.51	5.25	3.99
1974	25.10	24.00	22.20	21.62	23.57	9.90	7.10
1975	30.23	27.61	25.98	23.06	27.31	11.47	7.93
1976	33.71	31.42	29.80	22.24	29.57	12.42	8.50
1977	36.83	36.33	34.57	25.99	33.21	13.95	8.83
1978	38.78	38.00	36.04	23.46	33.73	14.17	9.80
1979	56.29	56.51	53.96	32.63	48.85	20.52	13.20
1980	87.04	80.66	78.12	44.34	72.57	30.48	22.67
1981	101.56	102.36	98.75	61.84	89.26	37.49	34.92
1982	94.41	99.03	92.51	57.30	83.20	34.94	31.72
1983	87.64	87.03	80.77	56.36	77.19	32.42	29.34
1984	81.10	87.29	80.78	58.20	74.49	31.29	28.95
1985	80.87	82.82	76.53	54.73	72.48	30.44	26.59
1986	46.58	51.07	44.80	36.56	43.53	18.28	14.65
1987	52.73	57.76	52.13	45.96	50.86	21.36	17.45

Sources: Product prices from IPAA.
Crude oil wellhead prices derived from Energy Information Administration data.

Notes: Data reflect price trends only, not actual sale prices.
Motor gasoline prices represent leaded fuel prior to 1982, and unleaded thereafter.

Industry Employment—1987

	MINING	REFINING		TRANSPORTATION		WHOLESALE	RETAIL	TOTAL
	Oil and Gas Extraction	Petroleum Refining	Oils and Greases	Pipelines, Except Gas	Gas Distribution	Petroleum Products	Gasoline Stations	INDUSTRY
Alabama	1,312	423	100	83	3,123	5,116	7,951	18,108
Alaska	8,063	261	0	922	244	530	1,069	11,089
Arizona	105	N.A.	N.A.	122	1,866	1,311	8,662	12,066
Arkansas	2,576	N.A.	N.A.	N.A.	2,154	2,795	5,330	12,855
California	32,282	24,007	863	1,184	11,455	14,999	63,918	148,708
Colorado	14,300	586	1,004	92	2,036	2,216	8,271	28,505
Connecticut	150	N.A.	88	N.A.	1,290	1,600	9,364	12,492
Delaware	0	772	9	4	316	268	1,475	2,844
Dist. of Columbia	68	69	0	0	599	150	906	1,792
Florida	680	46	207	70	2,140	6,630	29,777	39,550
Georgia	71	94	137	466	4,161	5,829	17,508	28,266
Hawaii	N.A.	432	0	0	343	591	3,615	4,981
Idaho	18	0	0	16	332	1,401	3,051	4,818
Illinois	3,799	8,074	271	891	7,865	9,408	25,922	56,230
Indiana	599	2,316	295	410	2,946	3,284	17,537	27,387
Iowa	29	0	53	154	1,265	3,155	12,256	16,912
Kansas	9,733	2,302	365	1,820	2,896	2,247	8,543	27,906
Kentucky	2,290	3,683	114	140	3,241	3,055	10,374	22,897
Louisiana	51,600	11,200	800	1,000	6,200	5,300	7,600	83,700
Maine	N.A.	0	0	N.A.	N.A.	1,329	3,297	4,626
Maryland	35	N.A.	N.A.	0	N.A.	2,675	13,450	16,160
Massachusetts	290	N.A.	377	N.A.	4,957	2,694	15,708	24,026
Michigan	4,216	1,615	781	279	6,811	5,829	23,367	42,898
Minnesota	N.A.	N.A.	157	194	2,257	2,580	16,606	21,794
Mississippi	5,359	1,534	112	0	2,124	2,964	5,905	17,998
Missouri	63	11	411	230	4,867	6,020	19,056	30,658
Montana	2,010	765	1	78	289	1,262	3,144	7,549
Nebraska	592	N.A.	N.A.	102	2,246	1,895	6,683	11,518
Nevada	222	26	0	26	738	453	3,831	5,296
New Hampshire	1	0	3	3	260	460	2,813	3,540
New Jersey	148	6,248	983	162	2,265	3,727	18,872	32,405
New Mexico	8,893	647	32	361	3,077	2,195	4,053	19,258
New York	1,785	5,673	407	124	6,716	8,845	28,076	51,626
North Carolina	5	N.A.	224	121	2,665	5,905	10,888	19,808
North Dakota	2,601	221	147	158	1,045	2,210	2,390	8,772
Ohio	7,159	5,336	785	675	7,382	6,646	30,253	58,236
Oklahoma	43,438	6,635	439	1,375	5,293	4,299	7,090	68,569
Oregon	87	91	N.A.	N.A.	N.A.	2,451	8,801	11,430
Pennsylvania	4,100	8,200	800	700	8,500	9,900	27,300	59,500
Rhode Island	7	N.A.	N.A.	N.A.	901	409	2,383	3,700
South Carolina	31	0	N.A.	N.A.	574	3,737	7,685	12,027
South Dakota	100	0	0	64	126	1,528	2,606	4,424
Tennessee	351	338	128	42	1,824	5,225	11,892	19,800
Texas	171,253	29,665	1,147	4,708	26,710	23,101	34,045	290,629
Utah	1,903	778	11	79	2,307	1,376	5,080	11,534
Vermont	0	0	0	0	103	430	2,067	2,600
Virginia	N.A.	N.A.	55	N.A.	3,012	8,335	15,482	26,884
Washington	191	1,571	N.A.	79	N.A.	2,692	10,347	14,880
West Virginia	4,298	435	114	97	4,837	1,495	4,844	16,120
Wisconsin	11	136	73	164	2,848	3,343	16,455	23,030
Wyoming	8,866	905	6	241	1,065	1,030	2,894	15,007
TOTAL U.S.	**395,690**	**125,095**	**11,499**	**17,436**	**160,271**	**196,925**	**610,492**	**1,517,408**

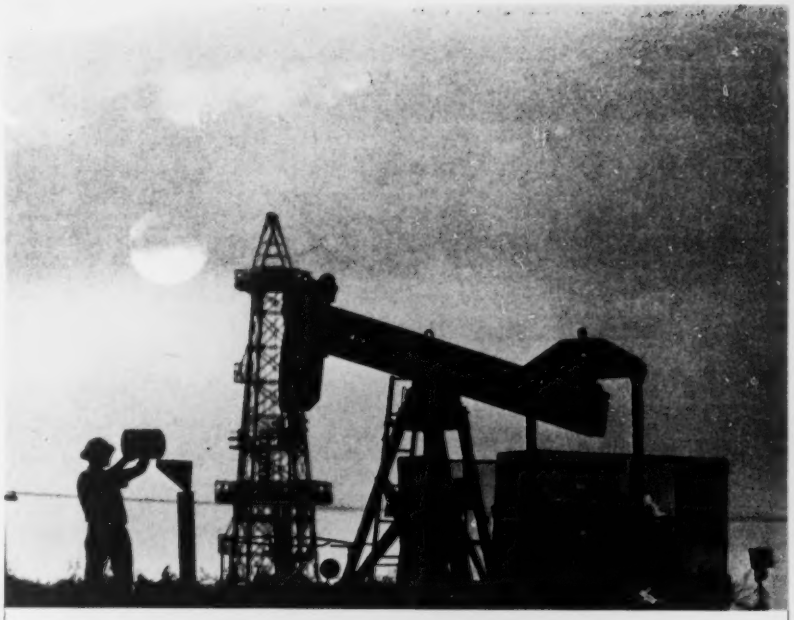
Source: Various government agencies

Note: Data differ from the Bureau of Labor Statistics national averages due to confidentiality rules

Energy Consumption

	Crude Oil and NGL	Natural Gas	Other Sources	Total Energy
	(Quad. BTU)			
1949	11.9	5.2	13.4	30.5
1950	13.3	6.0	13.8	33.1
1951	14.4	7.1	14.0	35.5
1952	15.0	7.6	12.8	35.3
1953	15.6	7.9	12.8	36.3
1954	15.8	8.3	11.1	35.3
1955	17.3	9.0	12.6	38.8
1956	17.9	9.6	12.8	40.4
1957	17.9	10.2	12.4	40.5
1958	18.5	10.7	11.2	40.4
1959	19.3	11.7	11.1	42.1
1960	19.9	12.4	11.5	43.8
1961	20.2	12.9	11.3	44.5
1962	21.1	13.7	11.8	46.5
1963	21.7	14.4	12.2	48.3
1964	22.3	15.3	12.9	50.5
1965	23.3	15.8	13.7	52.7
1966	24.4	17.0	14.3	55.7
1967	25.3	17.9	14.4	57.6
1968	27.0	19.2	14.8	61.0
1969	28.3	20.7	15.2	64.2
1970	29.5	21.8	15.1	66.4
1971	30.6	22.5	14.9	67.9
1972	33.0	22.7	15.6	71.3
1973	34.8	22.5	16.9	74.3
1974	33.5	21.7	17.4	72.5
1975	32.7	20.0	17.9	70.6
1976	35.2	20.4	18.8	74.4
1977	37.1	19.9	19.2	76.3
1978	38.0	20.0	20.1	78.1
1979	37.1	20.7	21.1	78.9
1980	34.2	20.4	21.4	76.0
1981	31.9	19.9	22.1	74.0
1982	30.2	18.5	22.1	70.9
1983	30.1	17.4	23.1	70.5
1984	31.1	18.5	24.5	74.1
1985	30.9	17.8	25.2	74.0
1986	32.2	16.7	25.3	74.2
1987	32.9	17.2	26.2	76.3

Source: Energy Information Administration



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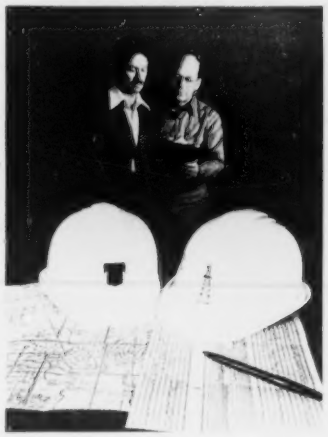

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Natural Gas Wellhead Prices

($ Mcf)	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Alabama	1.50	2.04	3.19	4.77	3.44	4.28	3.73	3.71	2.89	2.75
Alaska	.52	.52	.73	.62	.63	.73	.73	.74	.50	1.19
Arizona	.37	.41	1.15	1.85	2.59	3.08	2.90	2.80*	2.15*	1.75
Arkansas	.75	.96	.70	1.81	2.13	2.29	2.54	2.55	2.51	2.00
California	1.36	1.71	2.17	2.57	3.09	3.57	3.80	3.36	2.89	1.69
Colorado	.84	1.41	1.47	1.97	3.17	3.38	3.43	2.90	2.05	1.76
Florida	1.39	1.57	1.73	2.71	2.46	2.33	2.57	2.43	1.20	1.92
Illinois	1.29	1.86	1.90	2.47	2.62	2.84	2.78	2.77	2.57	2.24
Indiana	.71	1.05	1.35	2.08	1.55	2.09	3.38	2.51	1.23	1.71
Kansas	.57	.76	.77	.92	1.51	1.57	1.49	1.27	1.21	1.15
Kentucky	.58	.95	.89	1.01	1.52	1.51	1.70	2.39	1.88	1.82
Louisiana	.84	1.12	1.61	2.07	2.60	2.67	2.73	2.66	2.21	1.61
Maryland	.61	1.04	.46	.48	.78	.55	.55	.59	.65	.55
Michigan	1.20	1.74	2.36	2.86	3.19	3.58	3.76	3.60	3.60	3.20
Mississippi	1.15	1.60	2.32	3.21	3.91	3.78	3.47	3.17	2.13	1.97
Missouri	.60*	1.35*	2.00*	2.50*	3.00*	3.45*	3.75	3.50	3.75	3.75
Montana	.85	1.21	1.45	1.91	2.15	2.41	2.46	2.39	2.05	1.80
Nebraska	.68	.85	.83	1.45	1.99	2.93	2.24	3.01	2.82	2.42
New Mexico	.99	1.37	1.76	2.13	2.47	2.68	2.71	2.62	1.87	1.67
New York	1.19	1.27	1.95	2.67	3.75	3.85	4.00	3.37	3.39	2.00
North Dakota	.46	1.28	1.19	1.94	2.30	2.27	2.26	1.90	1.35	1.30
Ohio	1.57	1.81	1.98	2.17	2.71	3.24	3.19	3.08	2.84	2.56
Oklahoma	.90	1.12	1.51	1.88	2.74	2.83	2.72	2.47	1.71	1.46
Oregon	1.50*	2.13	2.40	2.60	3.33	3.33	2.78	2.40	2.00	1.45
Pennsylvania	.86	1.33	2.13	2.33	2.80	3.00	3.25	3.16	2.50	2.25
South Dakota	1.35*	2.11	2.45	2.75	3.08	3.37	3.67	2.51	2.46	2.69
Tennessee	1.64	1.70	1.76	2.55	3.00	2.50	3.50	2.48	1.78	1.31
Texas	1.00	1.23	1.57	1.87	2.17	2.36	2.45	2.33	1.65	1.51
Utah	.64	.72	1.12	1.10	3.06	3.40	4.08	3.52	2.90	1.88
Virginia	1.31	1.68	2.85	2.15	3.69	3.30	3.00	3.02	2.45	2.25
West Virginia	.66	1.05	3.00	3.00	3.20	3.10	3.45	3.85	3.90	3.85
Wyoming	.79	1.13	1.92	2.77	3.22	3.18	3.32	3.01	2.52	1.76
TOTAL U.S.	**.91**	**1.18**	**1.59**	**1.98**	**2.46**	**2.59**	**2.66**	**2.51**	**1.94**	**1.71**

Source: Energy Information Administration
* Estimated by IPAA

Note: All 1987 prices are estimated by IPAA

Energy Usage Per 1982 GNP $

(thous. BTU)	Total Energy Consumption	End-Use Energy Consumption
1949	27.46	24.32
1950	27.48	24.40
1951	26.70	23.72
1952	25.58	22.58
1953	25.27	22.21
1954	24.90	21.83
1955	25.97	22.76
1956	26.47	23.11
1957	26.10	22.69
1958	26.21	22.82
1959	25.87	22.42
1960	26.30	22.79
1961	26.02	22.51
1962	25.86	22.31
1963	25.80	22.17
1964	25.59	21.90
1965	25.24	21.52
1966	25.20	21.37
1967	25.35	21.41
1968	25.79	21.65
1969	26.49	22.07
1970	27.49	22.72
1971	27.32	22.44
1972	27.32	22.30
1973	27.07	21.97
1974	26.58	21.38
1975	26.18	20.84
1976	26.31	20.91
1977	25.79	20.36
1978	25.07	19.66
1979	24.71	19.37
1980	23.83	18.39
1981	22.77	17.41
1982	22.37	16.96
1983	21.50	16.14
1984	21.22	16.02
1985	20.63	15.44
1986	20.00	14.98
1987	19.90	14.88

Source: Energy Information Administration

Note: End-Use Consumption excludes electricity generation, distribution, and power plant usage.

Abbreviations

bbl. = barrel
b/d = barrels per day
Mcf = thousand cubic feet
MMcf = million cubic feet
Bcf = billion cubic feet
Tcf = trillion cubic feet
BTU = British Thermal Unit
NGL = Natural Gas Liquids
LPG = Liquefied Petroleum Gases
EIA = Energy Information Administration
API = American Petroleum Institute
N/A = Data Not Available

Energy Conversions

One barrel of crude oil:
= 42 gallons
= 5,800,000 BTU of energy
= 5,614 cubic feet of natural gas

One cubic foot of natural gas:
= 7.48 gallons
= 1,032 BTU of energy
= 0.000178 barrel of crude oil

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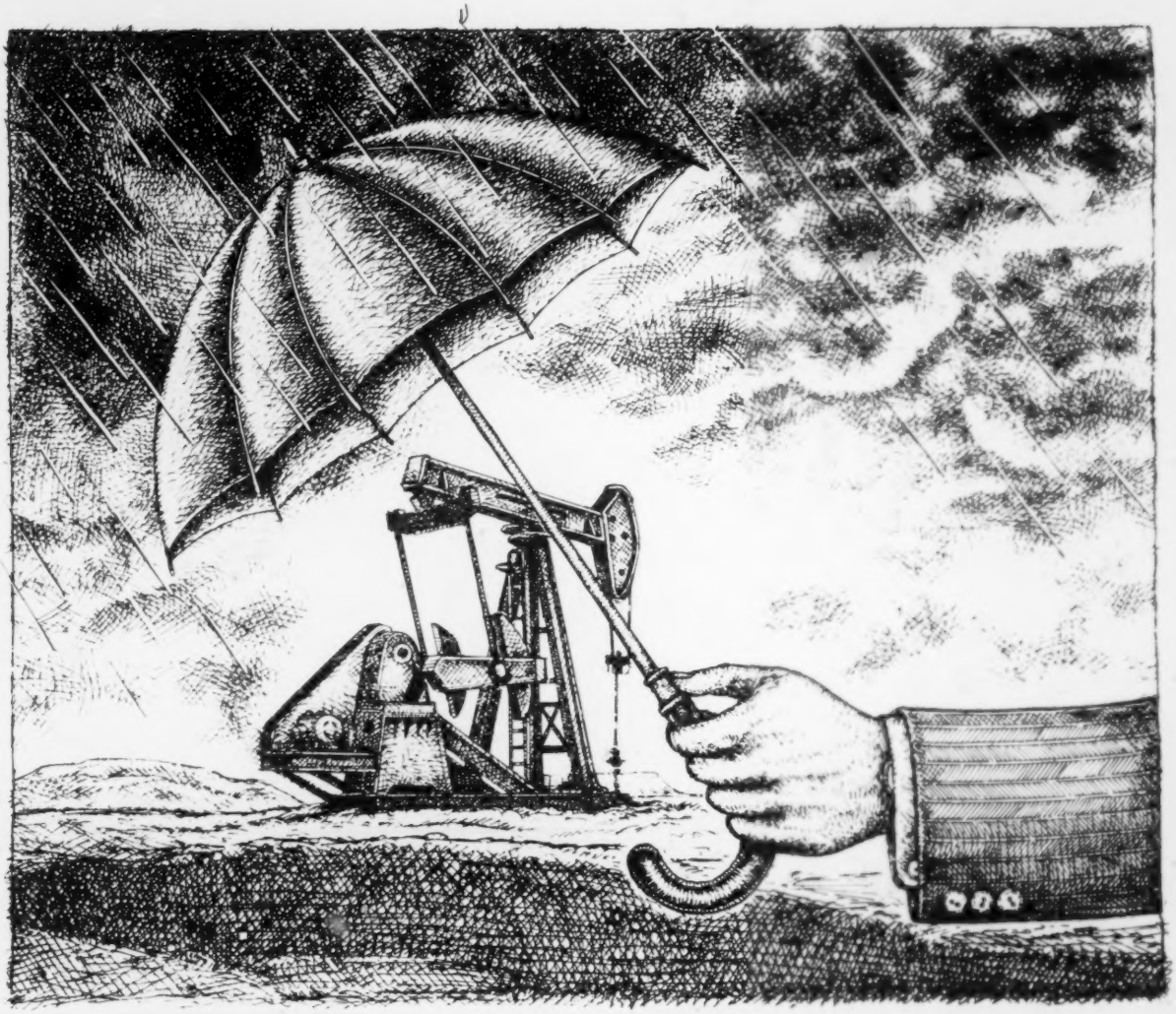
Product Consumption — 1987

(thous. bbls.)	Motor Gasoline	Aviation Fuels	Middle Distillates	Residual Fuel Oil	Asphalt	Propane	All Other	Total Products
Alabama	45,821	3,086	20,834	2,002	5,015	3,072	12,359	92,189
Alaska	5,866	15,119	7,328	11,586	264	217	6,252	46,632
Arizona	37,872	5,859	8,716	9	2,561	960	8,666	64,643
Arkansas	28,459	939	12,906	97	1,046	3,207	7,223	53,877
California	317,257	76,967	82,662	49,462	16,914	11,180	85,840	640,282
Colorado	39,118	8,008	9,904	281	3,197	2,656	9,779	72,943
Connecticut	31,714	1,589	13,311	24,806	2,198	1,156	11,577	86,351
Delaware	6,549	5,110	4,321	1,543	627	1,268	3,006	22,424
Dist of Columbia	3,927	0	3,001	367	271	0	1,171	8,737
Florida	137,148	19,962	32,650	35,629	8,262	7,267	37,299	278,217
Georgia	76,881	17,254	23,122	2,424	6,501	5,364	20,366	151,912
Hawaii	7,869	8,883	2,993	14,947	408	436	5,502	41,038
Idaho	10,652	452	5,033	21	513	441	2,649	19,761
Illinois	96,755	1,536	29,230	2,552	6,490	7,253	22,266	166,082
Indiana	58,340	17,765	28,900	1,541	7,810	4,430	18,391	137,177
Iowa	32,427	657	16,430	17	1,838	4,448	8,642	64,459
Kansas	55,490	3,595	27,583	706	2,686	23,919	17,646	131,625
Kentucky	42,985	4,219	20,133	392	2,776	3,070	11,391	84,966
Louisiana	63,182	25,091	43,711	32,520	2,338	11,371	27,591	205,804
Maine	13,739	632	7,221	10,530	948	517	5,200	38,787
Maryland	43,862	2,367	18,274	36,073	5,043	1,566	16,595	123,780
Massachusetts	59,305	7,127	46,468	1,600	1,520	9,131	19,376	144,527
Michigan	97,689	6,389	23,122	1,600	3,883	9,131	21,956	163,770
Minnesota	45,702	6,726	16,928	993	6,022	4,547	12,528	93,446
Mississippi	35,799	6,382	21,048	639	2,234	8,661	11,575	86,338
Missouri	58,789	6,758	17,412	776	4,472	4,391	14,336	106,934
Montana	11,146	1,850	5,890	115	1,814	1,189	3,407	25,411
Nebraska	17,630	856	11,585	10	1,276	2,429	5,229	39,005
Nevada	14,299	3,939	6,160	210	888	711	4,057	30,264
New Hampshire	7,391	156	8,162	1,894	801	929	2,993	22,326
New Jersey	99,754	39,400	73,040	32,792	5,751	2,855	39,262	292,854
New Mexico	18,509	1,317	8,835	114	2,126	4,823	5,531	41,255
New York	118,538	2,539	56,692	54,420	7,095	5,046	37,828	282,158
North Carolina	76,698	5,189	30,056	6,544	4,407	6,015	19,958	148,867
North Dakota	8,362	427	6,980	245	976	3,032	3,100	23,122
Ohio	105,839	10,404	38,737	1,870	10,024	4,685	26,561	198,120
Oklahoma	50,427	6,758	18,494	999	2,805	5,919	13,222	98,624
Oregon	31,510	2,543	15,926	2,358	2,200	1,225	8,633	64,395
Pennsylvania	112,646	9,545	54,576	21,280	7,240	5,496	32,634	243,417
Rhode Island	12,986	594	7,976	2,565	1,938	369	4,092	30,520
South Carolina	37,433	796	12,513	2,800	2,660	2,992	9,165	68,359
South Dakota	8,719	1,013	5,305	2	693	951	2,583	19,266
Tennessee	64,997	5,077	27,443	421	5,105	2,486	16,338	121,867
Texas	304,142	92,323	132,089	33,923	12,950	76,497	100,932	752,856
Utah	18,866	4,717	7,589	642	1,468	1,119	5,326	39,727
Vermont	2,752	26	2,113	276	537	511	962	7,177
Virginia	66,434	10,834	30,366	9,522	4,832	2,373	19,254	143,615
Washington	54,136	16,103	24,984	9,816	2,331	1,993	16,932	126,295
West Virginia	15,077	194	7,002	958	551	288	3,727	27,797
Wisconsin	48,264	1,156	20,169	231	2,462	3,831	11,784	87,897
Wyoming	7,297	245	8,034	407	1,510	3,009	3,174	23,676
TOTAL U.S.	**2,767,044**	**470,473**	**1,163,959**	**422,832**	**180,279**	**262,668**	**815,487**	**6,082,742**

Sources: Energy Information Administration (preliminary data) and The Asphalt Institute

Notes: "Middle distillates" includes kerosene. "All Other" includes naphtha, lubricants, waxes, petroleum coke and still gas.



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